CALIFORNIA FIRE WEATHER ANNUAL OPERATING PLAN

2019

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CALIFORNIA ANNUAL OPERATING PLAN 2019

I. INTRODUCTION

The California Fire Weather Annual Operating Plan (AOP) constitutes an agreement between the California Wildfire Coordinating Group (CWCG) comprised of State, local government, and Federal land management agencies charged with the protection of life, property and resources within the State of California from threat of wildfire; and the National Weather Service (NWS), National Oceanic and Atmospheric Administration, U.S. Department of Commerce, charged with providing weather forecasts to the Nation for the protection of life and property.

The AOP provides specific procedural and policy information regarding the delivery of meteorological services to the fire management community in California. The NWS, CWCG, and Predictive Services work closely in all phases of the fire weather forecasts and warning program to resolve concerns and avoid potential inconsistencies in products and services prior to delivery to fire agency customers. The goal of all agencies is to maximize firefighter and public safety through a coordinated delivery of consistent services.

Fire protection within California is made efficient by the statewide exchange among Federal, State, and local agencies of their responsibilities for the protection of certain lands. Non-federal wildland fire management agencies are by agreement protecting Federal lands, and therefore, require NWS fire weather forecasts and warnings. It is essential that all fire protection agencies receive coordinated fire weather and fire danger services. Roles and responsibilities of the NWS and the interagency fire management community are set forth in the following reference documents:

A. Roles and responsibilities of the NWS and the interagency fire management community are set forth in the following reference documents:

Interagency Agreement;

CWCG – NWS California Fire Weather Program Assessment Team Charter;

National Weather Service NWSI 10-4: Fire Weather Services ;

2018 National Mobilization Guide;

National Predictive Services Handbook;

NWCG Glossary

B. Participating agencies include the following:

- Federal, State, and local fire agencies comprising the California Wildfire Coordinating Group (CWCG) and Predictive Services.
- The NOAA/National Weather Service offices serving California
- Representatives from independent city/county fire agencies.

CHANGES AND UPDATES FOR 2019

- Most changes to the 2019 California Fire Weather AOP were minor.

- Changes to fire weather zone configuration in the Hanford forecast area.

NWS Fire Weather Planning Forecasts

NWS Fire Weather Planning Forecasts provide general information for daily preparedness and planning purposes. Forecasts are subdivided into meteorologically and topographically similar forecast areas called zones. Because of their more generalized information, planning forecasts are never to be used as a spot forecast. The table below outlines issuance times of planning forecasts for each NWS office. The beginning and ending dates of high season forecast issuances vary by year, depending on weather and fuel conditions.

Weather Forecast Office	High Season Narrative Forecasts	Morning Narrative Forecast NLT	Afternoon Narrative Forecast NLT	Low Season Narrative Forecasts NLT	NWS Forecast Zones
Extreme Northern California – Medford	*Usually by June 1 to October 1 #*	7:30 a.m.	3:30 p.m.	Daily 7:30 a.m.	280-282, 284, 285
Northwest California – Eureka	*Usually by June 1 to November 1 #*	7:30 a.m.	3:30 p.m.	Daily 7:30 a.m.	201-204, 211, 212, 276,277, 283
North Central California – Sacramento	*Year Round*	7:30 a.m.	3:30 p.m.	Daily 7:00 am.	213-221, 263, 264, 266-269, 279
Extreme Eastern California – Reno	*Usually by June 1 to November 1 #*	7:30 a.m.	3:30 p.m.	Daily 7:00 a.m.	270-273, 278
Central Coast California – San Francisco Bay Area/Monterey	*Usually by June 1 to November 1 #*	7:00 a.m.	3:30 p.m.	Daily 3:30 p.m.	006, 505-513, 516-518, 528-530
Central California Interior – San Joaquin Valley/Hanford	*Year Round*	7:00 a.m.	3:30 p.m.	Daily 3:00 p.m. PST or 3:30 p.m. PDT	298-299, 579, 580, 590-597
Southwest California – Los Angeles/Oxnard.	*Usually May 15 to December 1 #*	9:30 a.m.	3:30 p.m.	M-F 3:30 p.m. also M at 9:30 a.m. *	234-241, 244-246, 251-254, 259, 288, 547,548
Extreme Southwest California – San Diego	*Usually May 15 to December 1 #*	7:00 a.m.	2:30 p.m.	Daily 7:00 a.m.	552,554,243 248,250, 255-258, 260-262, 265
Southeast California – Phoenix	*Usually April 1 to October 31 #*	7:30 a.m.	3:30 p.m.	Daily 7:30 a.m.	230-232

Southeast California – Las Vegas	*Usually May 15 to December 1 #*	7:00 a.m.	3:30 p.m.	Daily 7:00 a.m.	226-229

** excludes Federal holidays # Customer coordinated depending on weather/fuels: two weeks' notice preferred for NWS WFOs*

Update/Corrected forecasts – Planning Forecasts are updated or corrected upon issuance of a Fire Weather Watch or a Red Flag Warning, when the current forecast does not adequately describe significant weather expected in the future, or when typographical/format errors prevent proper interpretation of the forecast.

Access – Planning Forecasts are widely available from the California Fire Weather Page (https://www.wrh.noaa.gov/fire2/cafw/index.php) NWS office websites and Predictive Services websites. All NWS fire weather information can also be accessed from the NWS National Fire Weather Page at: www. weather.gov/ fire. Forecasts are also available via WIMS.

Content and Format – Forecasts follow the national standard narrative format, per NWS Directive NWSI 10-401. Morning forecasts focus on the next 36 hours and afternoon forecasts on the next 48 hours, with general extended outlooks in both cases out to at least five days.

Planning Forecasts begin with pertinent headlines and a non-technical weather discussion. Headlines are included as needed for Red Flag Warnings and Fire Weather Watches. Headlines for critical fire weather conditions that do not meet Red Flag criteria are also included. Discussions should normally be no more than 8 lines in length. A detailed, technical weather discussion is available in the Area Forecast Discussion (AFD) product which can be found on each forecast office website. An optional technical fire weather discussion embedded within the Area Forecast Discussion may be included during critical fire weather periods or when incident meteorologists are assigned within the forecast area.

Short-term forecast for the first 36 or 48 hours - Short-term forecasts emphasize information needed for initial attack and day-to-day fire management. Each forecast zone or zone grouping contains the following elements, listed in the order they appear:

Headline(s) as appropriate
Sky/Weather
Temperature
Relative Humidity
Wind – 20-foot, 10 minute average RAWS standard (slope/valley and ridge top, as appropriate)
Chance of Wetting Rain (CWR)
Lightning Activity Level (LAL)

Forecasts may include the following optional elements based on local customer requirements:

Haines Index
Mixing Level or Mixing Height Marine
Layer
Transport Wind
10,000-foot Wind
Ventilation Category (or numeric value)
24-hour Trends (of temperature and relative humidity)

Extended Outlook - Beyond 36-48 hours, planning forecasts are used for resource planning. They contain general guidance information, keying on significant changes in temperature, humidity, wind, or weather needed for decision-making purposes.

Spot Forecasts

The National Spot page can be found here: https://www.weather.gov/spot/request/

A tutorial for the page can be found at:

https://www.wrh.noaa.gov/wrh/UsersSpotGuide2019_2.0.pdf

Spot Forecasts are detailed site-specific forecasts issued for wildfires, HAZMAT incidents, prescribed burns, search and rescue operations, etc., and are made available upon request at any time. Spot forecasts are available to any federal, state, or municipal agency as described in NWSI 10-401.

Spot forecast information is perishable. Using up-to-date spot forecasts is important and the requested issuance time for spot forecasts should be within a few hours of when the forecast will be used. NWS Spot forecasts are normally not produced more than 48 hours in advance. More than 48 hours in advance, other planning information is available to fire agencies, including the Fire Weather Planning Forecast and digital planning tools available on NWS web pages. These tools can be used for planning up to seven days out to identify time periods during which weather for a prescribed burn or other project is favorable. Please contact your NWS office for more information.

NWS spot forecasts are normally available within 30-60 minutes of the request, with wildfire and other urgent safety related requests having highest priority. If possible, non-urgent spot forecast requests for prescribed burns and similar projects should be made with as much

lead time as possible. Requests made in the afternoon or evening for delivery of a prescribed burn spot forecast the following morning is a recommended practice.

If more than a 4-6 hour project delay occurs – particularly if there is anything in the forecast or observed conditions which raises concern – the requestor should call their NWS office and discuss the forecast with a meteorologist. It is critical to have a working phone number from the requesting agency so they can be contacted by the NWS if needed.

Requesting a Spot Forecast: Spot forecasts are normally requested and received via the internet from the California Fire Weather web page, the national NWS Fire Weather web page, all NWS forecast office fire weather web pages. If internet access is not available, spot forecasts may be requested and disseminated via phone or fax using the backup spot forecast request form found in the appendix section. Fire agencies will confirm receipt of a spot forecast with a phone call to the issuing NWS forecast office.

At or before the time of a spot request, the requesting agency must provide information about the location, topography, fuel type(s), elevation(s), size, ignition time, and a contact name(s) and telephone number(s) of the responsible land management personnel. Also, quality representative observation(s) at, or near, the site of the planned prescribed burn, or wildfire, should be available to the NWS along with the request for a spot forecast(s).

In the initial attack phase of a new wildfire that presents an immediate threat to firefighters and/or the public (such as an urban interface fire in critical fuels and weather), the NWS may be called directly for a quick verbal briefing prior to a formal spot forecast issuance as time/communications allow.

Content and Format – National standard content and format for NWS spot forecasts can be found in NWS Directive 10-401. At a minimum, wildfire spot forecasts always include this content: headlines (when RFW in effect or other significant weather is headlined in the planning forecast), discussion, sky/weather, (max/min) temperature, (max/min) relative humidity, and 20- foot wind. Additional elements, such as transport winds, mixing height, LAL, etc. may be included upon request using the check boxes and “Remarks” section of the NWS Spot online form.

The forecast period is based on user request and will contain up to three periods, such as “TODAY”, “TONIGHT”, and “FRIDAY.” If requested and if enough weather information is received to make it feasible, a more specific first period such as “AT 11 A.M. IGNITION” may be used. In these cases, the meteorologist will not just forecast for the planned ignition time, but will include significant changes expected in the forecast parameters for the rest of the usual period, e.g., 11 AM temperature and the expected daytime maximum temperature.

When requested, an outlook for a longer duration will be appended, such as “OUTLOOK FOR WEDNESDAY THROUGH FRIDAY” for a spot requested on Monday.

Spot forecasts are considered one-time requests and are not updated unless the following procedures are used:

Scheduled Spot Forecast Update Requests –

For wildfires and other high impacts incidents: Scheduled updated spot forecast requests, such as for an upcoming shift briefing, should be submitted to the NWS at least two hours before being needed.

For prescribed burns and other non-urgent projects: Scheduled updated spot forecast requests should be made with as much lead time as possible. For a long-term project, a spot forecast update schedule provided to the NWS will help that office provide the best spot forecast service.

Unscheduled Spot Forecast Requests –

- Forecasts for unscheduled updates for prescribed burn spots, either due to a specific request based on the weather at the site or due to monitoring invoked by the phrase, "Request Priority Monitoring" or similar in the remarks section of the spot forecast request, will be issued as soon as possible and no longer than two hours after it is recognized that an update is desirable. As with all NWS products, spot forecasts are corrected when a typographical or format error prevents correct interpretation of the forecast. Corrected forecasts are delivered to agencies in the same manner as the original spot forecast.

Spot Forecast Feedback - Requesting agencies should always provide fire-line weather observations for the validation of weather forecast accuracy back to the NWS. For further explanation of the Feedback process, please go to Fire Weather Observations.

HYSPLIT Plume Trajectory Assistance – Automated HYSPLIT plume trajectory output is available with any spot forecast request and can be useful as a tool to help with smoke plume forecasting. The HYSPLIT Trajectory model provides automated trajectory guidance for air parcels at a given height above ground level.

To utilize this feature, simply add the phrase, "HYSPLIT to" and your email address into the remarks section of a spot request, such as "HYSPLIT to joe.cool@web.address" (Any email address works).

When the run is complete, you will receive an email with output that consists of a table of values, a gif HYSPLIT trajectory map, and a KMZ trajectory map for loading into Google Earth. This email is separate from the actual spot forecast. Please note that automated

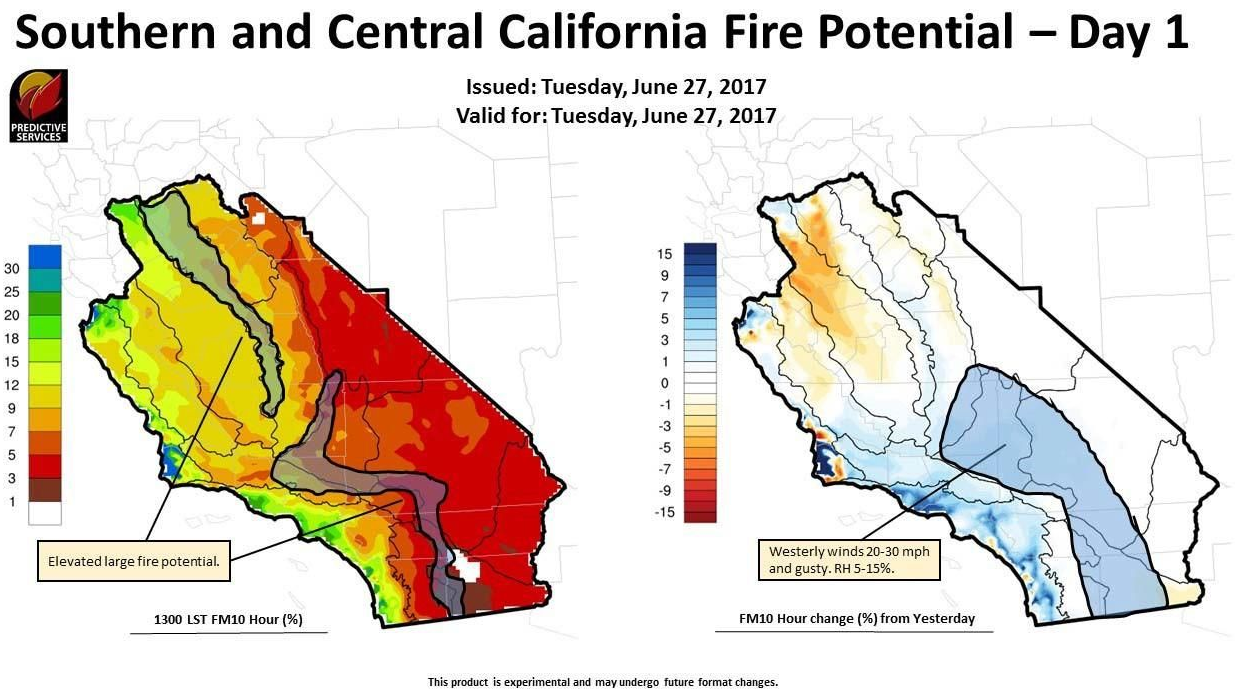
HYSPLIT output does not take into account information on burn size or fuels and generates air parcel trajectory forecasts for 500, 1500, and 3000 meters AGL and does not incorporate any fire plume height data.

For more information on HYSPLIT and how to interpret the output, please contact your local NWS fire weather program leader.

*2 Day Fire Potential**

This product highlights areas of significant weather as well as areas of elevated fire potential for the next 2 days. Colors indicate forecasted 10 hour dead fuel moisture values on the left, while the right map shows the 24 hour change in 10 hour dead fuel moisture

Issuance Schedule: By 10:00 am Pacific Time. Issued daily during fire season, and M-F during low season.



Product Link:

Southern California 2 Day Fire Potential:

https://gacc.nifc.gov/oscc/predictive/weather/2Day_Fire_Potential.pdf

*A similar product will be produced by the North Ops Predictive Service office in the near future.

Medford WFO Daily Fire Weather Briefing Webinar:

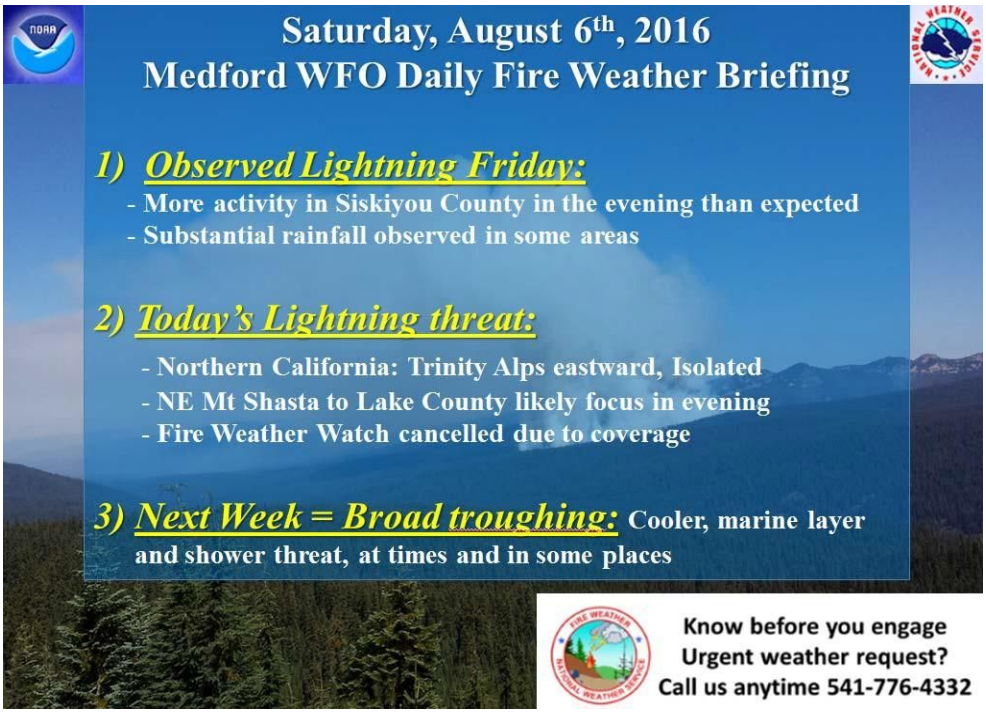
The Medford NWS Office will continue to produce once per day live and recorded Daily Fire Weather Briefings via a GoToWebinar format at 0930 each morning during declared fire season (usually June 1st to Sep 15th). These briefings will focus on important elements in the forecast as they relate to fire weather, both in the short term forecast and up to one month out, when pertinent. Additionally, these briefings may be done on an as needed basis prior to and after fire season if weather significant to fire operations is anticipated. Register via the following link;

https://attendee.gotowebinar.com/register/4494675281321657858

A recorded version of this daily webinar will be posted each day, usually by 1030am, at the following link:

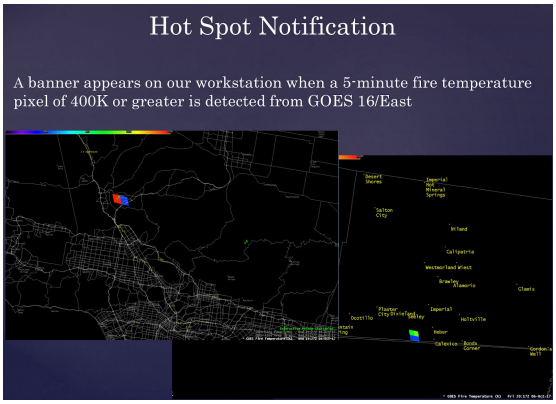
http://www.wrh.noaa.gov/mfr/fire/Briefing.wmv

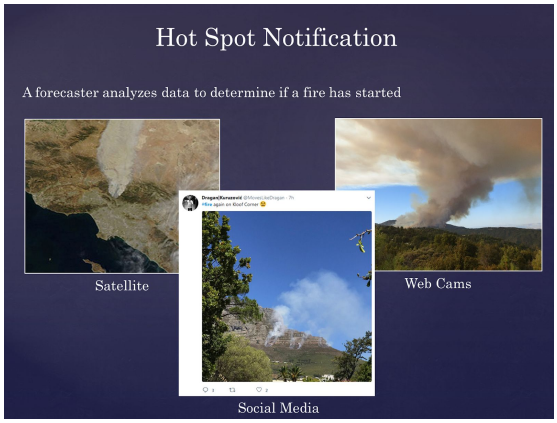
If you experience any difficulties registering or viewing, please contact the Medford NWS Office Fire Weather Desk at 541-776-4332.

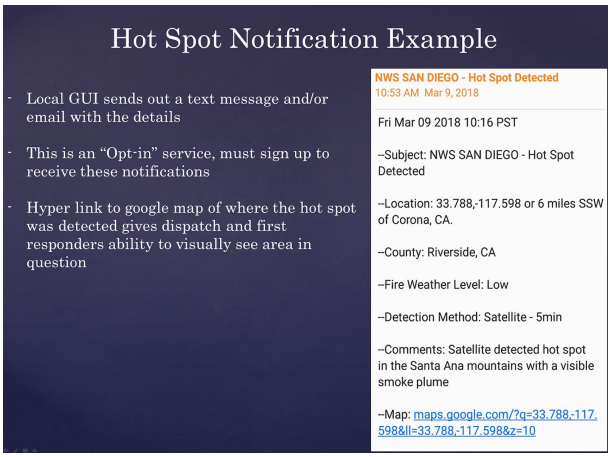


Experimental GOES HotSpot notification opt in:

The GOES 16 satellite (now GOES East) brought with it some new channels that allowed NWS forecasters to see things they haven't been able to see before across the United States. One of those channels is the fire temperature that can give a heads up to new fires in remote regions. Select NWS offices have been working with an experimental notification system utilizing the new satellite and a text and/or email notification to fire partners, alerting them to new potential fire starts. NWS offices San Diego and Hanford CA utilized in 2017, and NWS Sacramento started testing it out in 2018. GOES 17 (now GOES West) will likely be utilized for monitoring potential fires starts by the end of 2019 for California. Contact your local offices fire program manager to see if you office is utilizing this system.







IMET Incident Response

In addition to following direction in the National Mobilization Guide, the following direction is clarification for the Geographic Area Coordination Centers (GACC) in California:

When an IMET is requested for an incident, **the request will be placed to the GACC.** The GACC will notify the National Fire Weather Operations Coordinator (NFWOC) at NIFC at 1-877-323-IMET (4638).

The GACCs will maintain a list of qualified IMETs and trainees in the Resource Ordering and Staffing System (ROSS) by Weather Forecasting Office (WFO) identifier, and provide dispatching services for the NWS in California. This list will be updated annually based on the list that is published in the California Fire Weather Annual Operating Plan. IMETs will be dispatched by the GACCs in California just as if they are GACC employees.

When the NFWOC determines who will fill the incident request, the information will be relayed back to the GACC. If the IMET is within the requesting GACC, the IMET will be mobilized using ROSS.

If the IMET is in the California GACC that is not hosting the incident, the request will be placed through Selection Area to the other GACC.

If the identified IMET is not in a California WFO, the IMET request will be edited to add a Name Request and placed up to NICC who will place the request to the appropriate GACC.

The following list designates which California GACC will status and dispatch personnel for the California W FOs. Status can be maintained available/Local until requested to reduce work:

Redding PS
Eureka WFO
Sacramento WFO
San Francisco/Monterey WFO

Riverside PS
Hanford WFO
Los Angeles/Oxnard WFO
San Diego WFO

IMET personnel from Medford WFO, Reno WFO, Phoenix WFO and Las Vegas WFO shall be requested through NICC to their respective GACC using a Name Request.

The procedures for requesting IMETs will follow the guidelines outlined in the National Interagency Agreement, Administrative Procedures section of the current National Mobilization Guide, Personnel section of the current California Mobilization Guide, and CALFIRE Procedure No. 302.

The following information will be provided to the requested IMET:
Name of fire
Location of fire
Name of Incident Commander, Plans Chief, and Fire Behavior Analyst, if available.
Directions to Incident Command Post where the IMET is to report.
Resource Order number for IMET.

Additionally, the user agency is responsible for providing adequate shelter to allow the equipment and fire weather meteorologist to function efficiently. This would include a location that is free of excessive dust, heat and moisture, protection from wind and other elements, table, and chair. Transportation and shelter arrangements should be made at the time of request; 120 volt AC power is desirable.

The following is a list of IMETs, and All-hazard Meteorological Response System (AMRS) in the Northern and Southern California Area:

Northern and Southern California Area IMETs: (T) designates a trainee

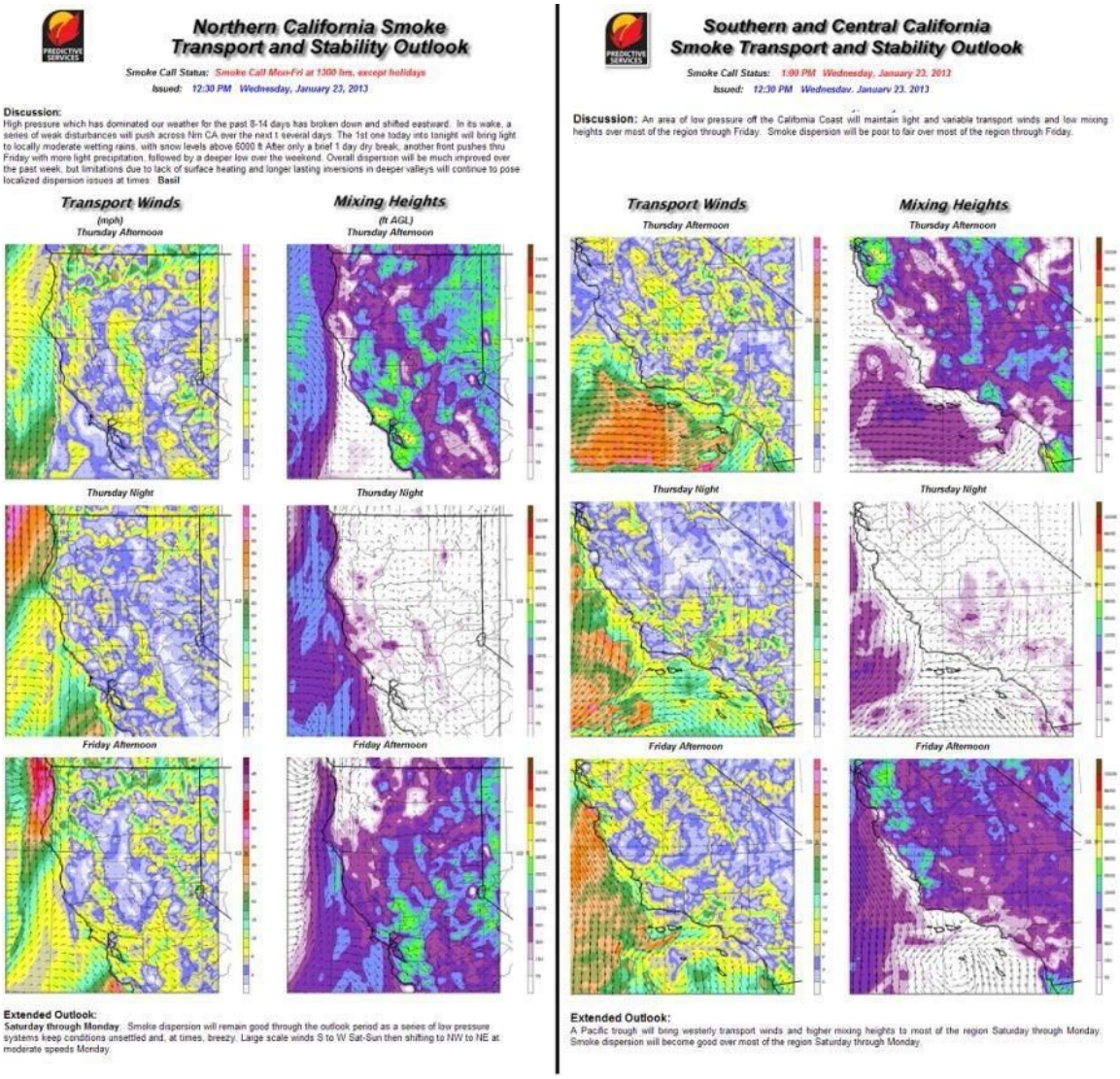
NWS IMETs:

Location	Name	Agency	ROSS Unit ID
Eureka, CA	Jeff Tonkin	NWS	CA-EKAW
Hanford, CA	Dan Harty James Dudley	NWS NWS	CA-HNXW CA-HNXW
Las Vegas, NV	Andy Gorelow	NWS	NV-VEFW
Medford, OR	Thomas Wright Sven Nelaimischkes (Trainee) Brett Lutz (T)	NWS NWS	OR-MFRW OR-MFRW
Monterey, CA	Ryan Walbrun Matt Mehle	NWS NWS	CA-MTRW CA-MTRW
Oxnard, CA	Rich Thompson	NWS	CA-LOXW
Phoenix, AZ	Andrew Deemer (T)	NWS	AZ-PSRW
Reno, NV	Alex Hoon Jim Wallmann Tony Fuentes (T) Zach Tolby (T)	NWS NWS NWS	NV-REVW NV-REVW NV-REVW
Sacramento, CA	Mike Smith Eric Kurth (T)	NWS	CA-STOW
San Diego, CA	Jimmy Taeger	NWS	CA-SGXW

Smoke Management

The ***Smoke Transport and Stability Product*** provides burners, and all other interested parties with a high resolution graphical display of *Transport Winds* (horizontal dispersion) and *Mixing Heights* (vertical dispersion), as well as an overall narrative describing general weather patterns, with an emphasis on smoke dispersion. An extended forecast describes expected large scale weather conditions for the 3-5 day period, again with an emphasis on smoke dispersion. At the top in red font is the Smoke Call Status, listing the next ***Daily Smoke Call***. This is a conference call hosted by Predictive Services and the California Air Resource Board, along with various participants on the federal, state, and local level interested in discussing burning conditions and air quality based burn allowances across the state.

Issuance Schedule: Issued 1230 pm PT…..Issued daily during fire season and M-F during low season.



Product Links:

Northern California Smoke Transport and Stability Outlook:
http://gacc.nifc.gov/oncc/predictive/weather/daily_smoke/Smoke.html

and

http://gacc.nifc.gov/oncc/predictive/weather/daily_smoke/Smoke.pdf

Southern California Smoke Transport and Stability Outlook:
http://gacc.nifc.gov/oscc/predictive/weather/daily_smoke/Smoke.pdf

Interagency Real-Time Smoke Monitoring Page:
https://app.airsis.com/USFS/UnitMap

When requested, the National Weather Service provides mixing height, transport wind, and HYSPLIT output on spot forecasts. See the "SPOT Forecast" section to determine how to request a spot forecast and HYSPLIT plume trajectory.

Air Resource Advisor (ARA)

The need for an ARA depends on conditions related to the incident, topography, weather, population, exposure risk, dispersion and area attainment designation. An incident smoke footprint can often span multiple air quality and public health jurisdictions as well as state boundaries. As such, the need for an ARA will be based on coordination between incident, community, state, tribal and air quality administrators.

Resource orders for ARA's will usually be initiated by incidents, agency Administrators, or agency Air Quality Program staff. All will be coordinated as name requests by the WOFAM Smoke Coordinator and submitted through normal overhead resource ordering channels (e.g. ROSS). Orders are authorized to commence upon concurrence of the requesting official. Duty locations order requests will be placed by the appropriate GACC and submitted through the GACC Duty Meteorologists. Order requests will often be initiated by incidents, GACC's, Agency Administrators, or agency Air Quality Program staff. All orders will be coordinated as name requests by the WO FAM Smoke Coordinator. Orders are authorized to commence upon concurrence of the requesting official and the GACC Duty Meteorologists. Duty locations may vary from on-site at Incidents to GACC's depending on the needs of the situation. Air Quality Monitoring equipment can be ordered through agency air quality staff and will be coordinated with the California Air Resources Board Office of Emergency Services, Tribes and respective Air Quality Management Districts.

Red Flag Program

Fire Weather Watches and Red Flag Warnings are issued when the combination of fuels and weather conditions support extreme fire danger and/or fire behavior.

A *Fire Weather Watch* is used to alert agencies to the high potential for development of a Red Flag event in the 18-96 hour time frame. The Watch may be issued for all or selected portions of a fire weather zone or zones.

A *Red Flag Warning* is used to inform agencies of the impending or occurring Red Flag conditions. A Red Flag Warning is issued when there is high confidence that Red Flag criteria will be met within the next 48 hours or less or criteria are already being met. Longer lead times are allowed when confidence is very high or the fire danger situation is critical. The Warning may be issued for all or selected portions of a fire weather zone or zones.

Fire Weather Watch and/or Red Flag Warning headlines are included in all affected forecasts. All NWS fire weather web pages also highlight any watch and/or warning issuances.

Format and Contents - A bullet format text message (RFW) is used for issuing, updating, and cancelling all Fire Weather Watches and Red Flag Warnings. Complete information regarding the format, content and examples of Fire Weather Watches and Red Flag Warnings can be found here:
http://www.nws.noaa.gov/directives/sym/pd01004001curr.pdf

NWS offices normally call affected dispatch offices when Red Flag Warnings and Fire Weather Watches are issued or updated. Watches and Warnings are also available on the internet via the California Fire Weather web page, the web site(s) of the issuing NWS office(s), the NWS National Fire Weather Page and (www.weather.gov/fire) and from WIMS.

If the issuance of a Red Flag Warning or Fire Weather Watch requires an update of the forecast, the NWS office will verbally notify the Redding and Riverside PSUs as soon as possible. During non-duty hours for the PSUs, a voice mail message should be provided by the NWS.

Fire Weather Watches and/or Red Flag Warnings from NWS offices are normally issued only after, 1) an accurate assessment of fuel conditions has been determined (see "Qualifying Fuels Information" section), and 2) conferring with affected agencies, including the GACC Predictive Services Units. The *final authority for the issuance of a watch/warning rests with the NWS forecaster.*

Watch/Warning Fuel Requirements:

Live and/or dead fuels are sufficiently receptive (dry) so that fire starts from any cause may become an initial attack problem for fire agencies in the Fire Weather Zone(s) impacted. Fuel dryness/receptiveness should be determined by the following methods, in ranking level of importance:

The local Fuels Management Officer (FMO) determines fuels are dry enough in the (portions of) Fire Weather Zone(s) to constitute an initial attack problem.

High to Extreme Fire Danger as determined by the local fire management agency. The Fuel dryness Level of the Geographical Area Coordination Center (GACC):

Northern California - The Fuel Dryness Level 7 Day Fire Potential Matrix in a brown or yellow category for the (portions of) Fire Weather Zone(s) expected to be impacted. If the fuel dryness level in the chart is green, the forecaster must determine if there will be an initial attack concern due to fuel dryness over all or part of the Fire Weather Zone or Zones. In rare cases, fuels may be or, may be becoming, too wet for an imminent large fire concern for the GACC, but are still dry enough, or dry enough for long enough, to be an initial attack concern.

Southern California – In addition to the 7 Day Fire Potential Matrix, the Predictive Services Unit in Riverside produces a written discussion on fuel status across southern California every other Thursday during fire season. This discussion is based on input from the fire community and includes a brief description of the current status of the live and dead fuel moistures, including green-up/curing information, as well as expected fuel conditions over the next seven days. The Fuels Discussion can be found at:

http://gacc.nifc.gov/oscc/predictive/fuels_fire- danger/myfiles/Fuels_Discussion1.pdf

Non Desert: When a fuel condition of "Dry" (yellow) or "Very Dry" (brown) is displayed on the matrix for any Predictive Service Area (PSA), the "fuels switch" will be considered "on" for that day. A RFW is NOT recommended for any PSA designated as "Moist" (green).

Desert (excluding the lower Colorado River Valley)**:** During dry winters and the spring curing season, fuel moistures **over the deserts** may be quite low without initiating serious concerns about the potential for large fire growth. Reasons include light fuel loading and/or discontinuous fuel, or the existence of dry fine fuels when larger live fuels remain relatively green. The Southern California GACC PSU will coordinate with affected WFOs to clearly communicate fuel conditions, and provide updates regarding spatial trends and changes in large fire potential, despite a "Very Dry" (brown) display on the associated PSA matrix.

The NWS should refer to this online document as the primary source of fuels information along with the National Fuel Moisture Database Located at:

http://www.wfas.net/index.php/national- fuel-moisture-database-moisture-drought-103,

Watch/Warning Criteria for Abundant or Dry Lightning:

Northern California Zones:

Abundant lightning (scattered [25%] areal thunderstorm coverage or greater) in conjunction with sufficiently dry fuels. Fuels must remain dry or critically dry during and immediately following a lightning event. Warnings may

be issued for isolated events (< 25% areal coverage) when little or no precipitation Is expected to reach the ground.

Areal Description	NWS Fire Weather Zones
Northern California West of the Cascade / Sierra Crest	006, 201-204, 211-213, 215-221, 263, 264, 266-269 276, 277, 279-283**,**
Eastern Sierra, Northeast CA	214, 270-271, 273, 278, 284-285
Lake Tahoe Basin	272

Southern California Zones:

A lightning event that is not accompanied by enough precipitation to significantly wet fuels that have been identified as critically dry. Significant precipitation is defined as ranging from 0.05 inches for grass or brush to 0.15 inches for closed-canopy timber and heavy fuels. Fire Weather Watches and Red Flag Warnings will be issued for high impact lightning events in receptive fuels. Isolated events or events of short duration (i.e., events which start dry but become wet within 1-2 hours) do not need warnings but may be headlined in the forecast.

Areal Description	NWS Fire Weather Zones
Southern California desert area excluding the Lower Colorado River Valley	226-228, 230, 232, 260-262, 265
Lower Colorado River Valley	229, 231
Antelope Valley and SE Kern County Deserts and Central CA Interior	298-299, 259, 579, 580, 590-597
Southern California Excluding the Antelope Valley	234-241, 244-246, 251-254, 288, 547-548
Extreme Southern California	243, 248, 250, 255-258, 552, 554

Watch/Warning Criteria for Wind and/or Low Relative Humidity

Northern California Zones:

Areal Description	NWS Fire Weather Zones	Criteria
Northern California West of the Cascade / Sierra Crest	006, 201-204, 211-213, 215-221, 263- 264, 266-269, 276-277, 279, 283**,** 505-513, 516-518, 528-530	Refer to Wind/RH RFW Decision Matrix on next page.
Northern California West of the Cascade / Sierra Crest	280, 282 (WFO Medford Zones)	4 or more hours: For dry cold fronts: RH < 15%, sustained wind >= 10mph with gusts >= 20 mph. - East winds: RH < 25%, sustained wind >= 15mph with gusts >= 25 mph.or more.

Areal Description	NWS Fire Weather Zones	Criteria
Northern California West of the Cascade / Sierra Crest	280, 282 (WFO Medford Zones)	4 or more hours: For dry cold fronts: RH < 15%, sustained wind >= 10mph with gusts >= 20 mph. - East winds: RH < 25%, sustained wind >= 15mph with gusts >= 25 mph.or more.
Eastern Sierra, Northeast CA	214, 270-271, 273, 278	RH ≤ 15% with wind gusts ≥ 30 mph for 3 hours or more.
Northeastern CA excluding Surprise Valley	284, 285, 281	≤ 15% with wind gusts ≥ 30 mph for 3 hours or more. OR Daytime Min RH ≤ 10% with wind gusts ≥ 20 mph for 3 hours or more. (Note: Zone 281 must be 6 hours or longer).
Lake Tahoe Basin	272	Relative Humidity ≤ 20% with wind gusts ≥ 30 mph for 3 hours or more. If fuels are at extreme levels: wind gusts ≥ 30 mph for 3 hours or more, regardless of Humidity.

Southern California Zones:

Area Description	NWS Fire Weather Zones	Criteria
Southern California desert area excluding the Lower Colorado River Valley	226-228, 230, 232, 260-262	Relative Humidity ≤ 15% and wind gusts ≥ 35 mph for 6 hours or more, assuming fuel conditions are critical.
Lower Colorado River Valley	229, 231	Relative Humidity ≤ 15% with sustained winds ≥ 20 mph or wind gusts ≥ 35 mph for 3 hours or more.
Antelope Valley and SE Kern County Deserts	298, 299, 259	Relative Humidity ≤ 15% and sustained (20-foot) winds ≥ 25 mph for a duration of 8 hours or more.
Central California Interior except Kern County Mountains (WFO Hanford)	289-299, 579, 580, 590-594	RAWS sustained winds ≥ 25 mph or frequent gusts ≥ 35 mph AND Relative Humidity ≤ 15% for a duration of 6 hours or more. OR Relative Humidity ≤ 10% for a duration of 10 hours or more regardless of wind.

Southern California Excluding the Antelope Valley (WFO Los Angeles) and the Kern County Mountains	234-241, 244-246, 251-254, 295	RH ≤ 10% with sustained wind ≥ 15 mph or with gusts ≥ 25 mph for 6 hours or more.
	288, 547,548, 595-597	RH ≤ 15% with sustained wind ≥ 25 mph or with gusts ≥ 35 mph for 6 hours or more.
Extreme Southern California (WFO San Diego)	243, 248, 250, 255-258, 260-262, 265, 552, 554	RH ≤ 15% with sustained wind ≥ 25 mph or with gusts ≥ 35 mph for 6 hours or more.

Wind/RH Decision Matrix for Northern California West of the Cascade/Sierra Crest

Matrix assumes daytime 10-hour fuel moisture (NFDRS obs time) is ≤ 6%, annual grasses have cured, and no wetting rain (greater than 0.10 inch) has fallen in the past 24 hours.

The sustained wind refers to the standard 20-foot, 10 minute average fire weather wind speed.

The wind event should be expected to last for at least 8 hours to qualify for a Red Flag warning. [This guidance was developed for Foehn wind events, which normally exceed 12 hours duration, and may last as long as 3-5 days].

A **'W'** in the matrix indicates that a Watch or Warning should be considered.

Relative Humidity	**Sustained Wind 6-11 mph**	**Sustained Wind 12-20 mph**	**Sustained Wind 21-29 mph**	**Sustained Wind 30+**
Daytime Minimum RH 29-42% and/or Nighttime Maximum RH 60- 80%				**W**
Daytime Minimum RH 19-28% and/or Nighttime Maximum RH 46- 60%			**W**	**W**
Daytime Minimum RH 9-18% and/or Nighttime Maximum RH 31- 45%		**W**	**W**	**W**
Daytime Minimum RH < 9% and/or Nighttime Maximum RH < 31%	**W**	**W**	**W**	**W**

7-Day Significant Fire Potential Product

The 7-Day Significant Fire Potential product is a forecast of potential significant fire activity across the Geographic Area through the next seven days based on expected weather and fuel conditions. A “Significant” or “Large” Fire” is defined by size, generally ranging from 50-500 acres depending on the Predictive Service Area. The product contains a table displaying fuel dryness and, when appropriate, significant weather triggers. The product also contains a narrative section consisting of a weather synopsis, a fire potential discussion, and a resource capability summary as defined in the California Mobilization Guide.

Fuel Conditions or Fuel Dryness

Fuel Dryness is a function of the Energy Release Component (ERC) combined with either the ten hour (F10) or the one hundred hour (F100) dead fuel moisture. These indices have been correlated to historical fire activity to form three categories of Fuel Dryness, displayed by the following colors in the product:

Green (Moist Fuels) – Little if any threat for large fires.

Yellow (Dry Fuels) – Low threat for large fires when a Significant Weather Trigger is absent. Brown (Very Dry Fuels) – Moderate threat for large fires when a Significant Weather Trigger is absent.

Significant Weather Triggers

Significant Weather Triggers are weather events that either start new fires (Ignition Trigger), or provide favorable conditions (Burn Environment) for rapid growth to occur on existing fires when combined with “Dry” or “Very Dry” fuel conditions. The following is a list of Significant Weather Triggers used in the product.

Lightning Windy
and dry
Unseasonably hot and dry Unstable

High Risk Day

High Risk Days are rare occasions when conditions exist that historically have yielded in a significantly higher than normal chance (>= 20%) for a new large fire or for significant growth to occur on existing fires. There are two conditions that would lead to the issuance of a High Risk Day: 1) Ignition Trigger or, 2) A Critical Burn Environment.

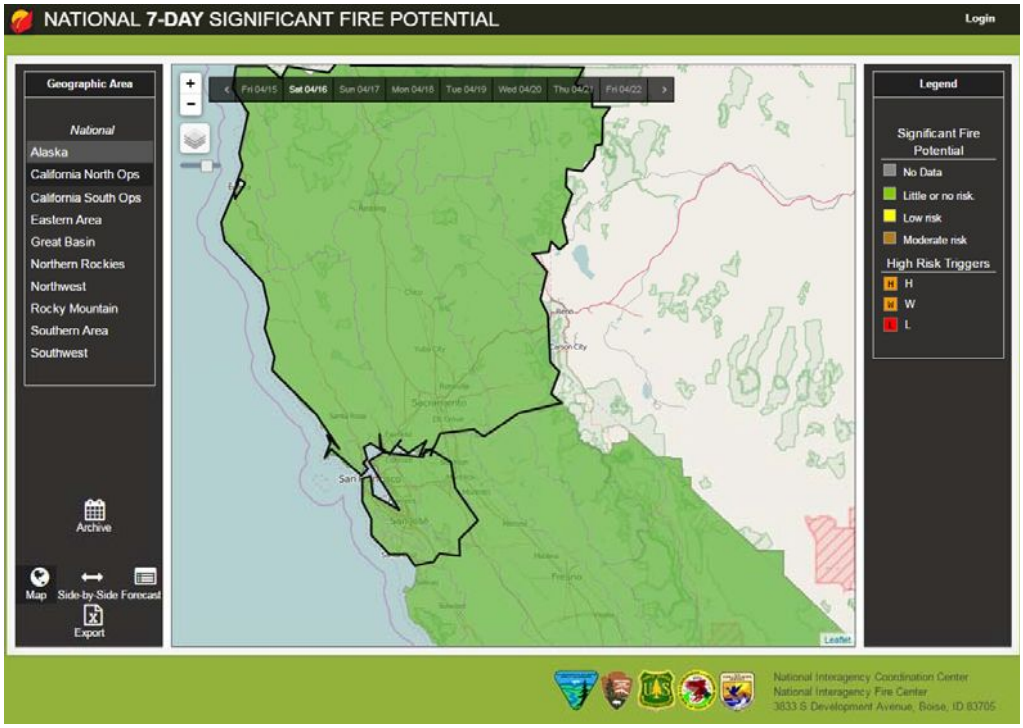
(Red) – Ignition Trigger. Occurs when a “Dry” or “Very Dry” Fuel Dryness category coexists with lightning.

(Orange) – Burn Environment. Occurs when a “Dry” or “Very Dry” Fuel Dryness category coexists with any of the Significant Weather Triggers other than lightning.

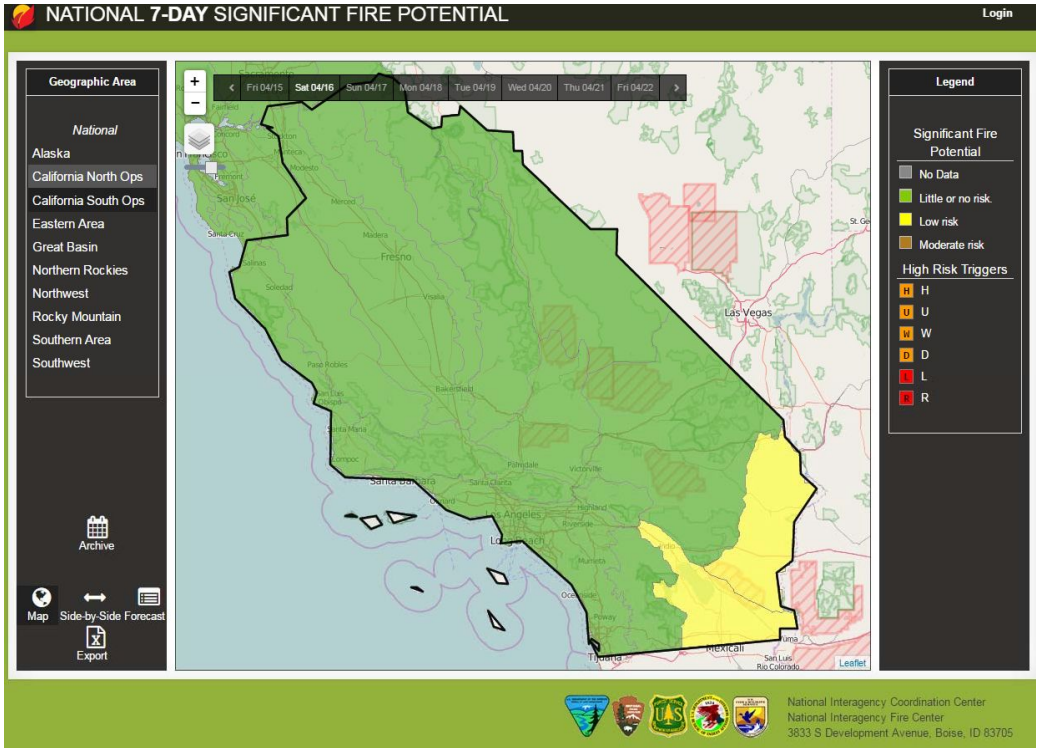
This product is issued by 0845 local time. Predictive Services will notify the appropriate National Weather Service office(s) of the issuance of any High Risk Days.

Webpage location:

North: http://psgeodata.fs.fed.us/forecast/#/outlooks?state=map&gaccId=4

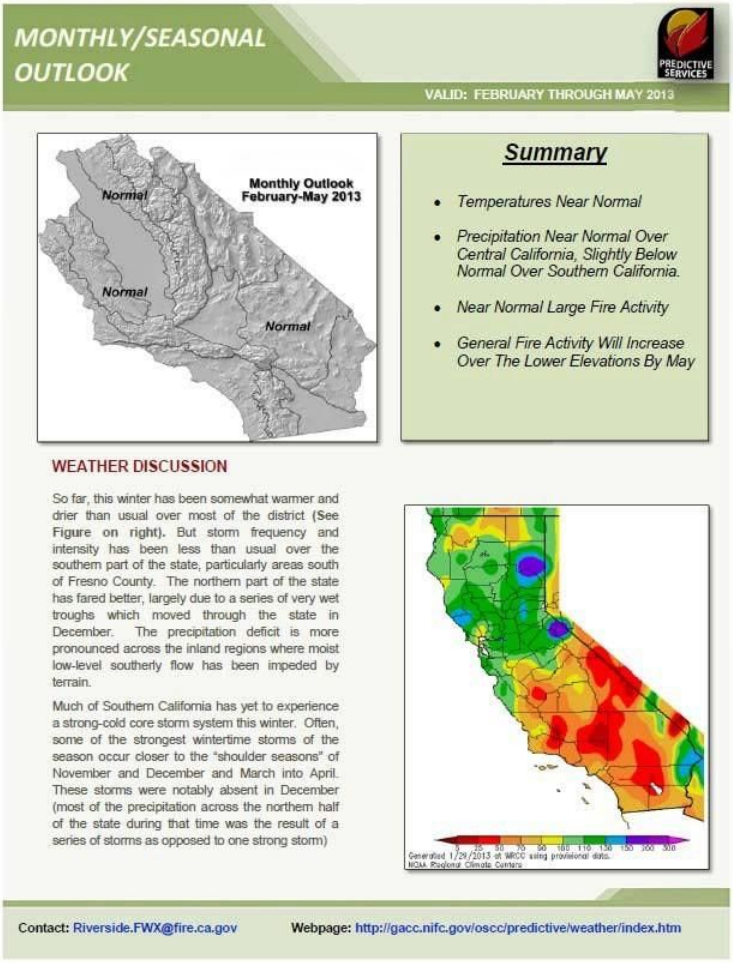


South: http://psgeodata.fs.fed.us/forecast/#/outlooks?state=map&gaccId=8



Monthly/Seasonal Outlook

This product combines all available meteorological, climate, fuels, and fire danger information to produce an outlook of large fire potential for the next 4 months. Current and future trends of weather, fuel, and drought conditions are discussed to give context to the large fire potential outlook. When appropriate, areas of large fire potential and resource utilization, relative to normal will be overlaid on maps showing the Geographical Area. This product is issued year round, prepared a few days prior to start of the new month and posted on the website by the first of each month.



Issuance Time: 1st of each month.

North: http://gacc.nifc.gov/oncc/predictive/outlooks/Outlook_NOps.pdf

South: http://gacc.nifc.gov/oscc/predictive/outlooks/myfiles/assessment.pdf

Podcast/Webcast

Predictive Services produces a 3-6 minute audio/visual briefing describing weather, fuels, and fire potential information for the Geographic Area for the next 5 to 7 days. The audio/visual briefing is generally available by 9 am from South Ops and 10:15 am from North Ops.

Issuance Schedule:
North Ops……..M-F, winter
……...Daily, fire season

South Ops…….M-W-F, winter
……...M-F, fire season

Links:
North Ops: https://gacc.nifc.gov/oncc/predictive/weather/brief_files/brief.mp4

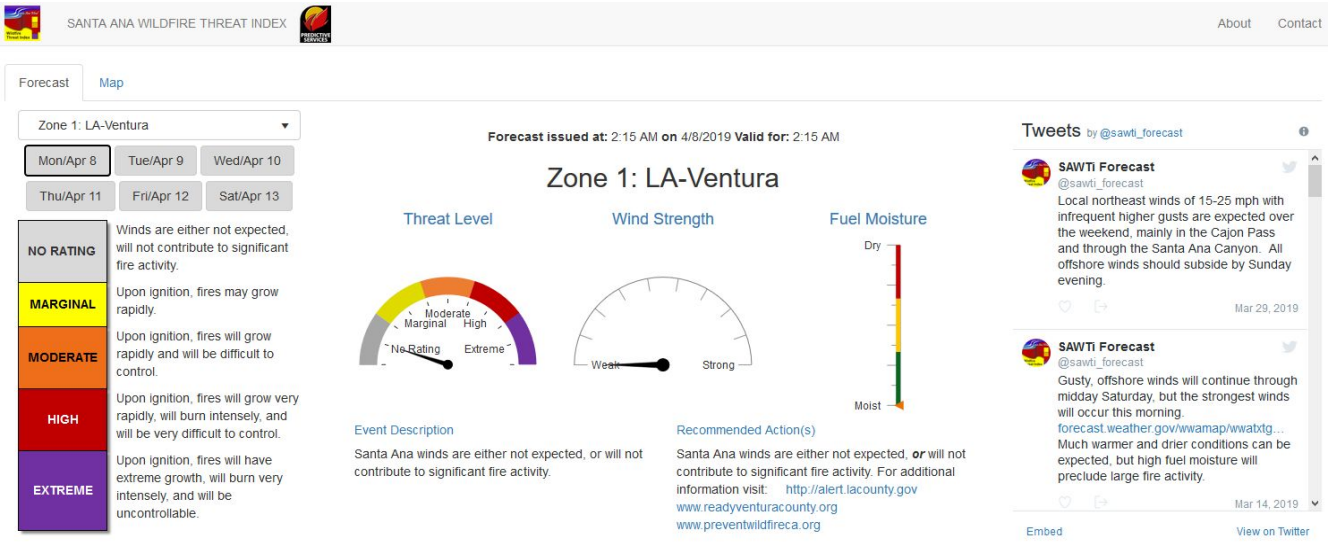
South Ops: https://gacc.nifc.gov/oscc/predictive/weather/myfiles/Webcast.mp4

Santa Ana Wildfire Threat Index (South Ops Only)

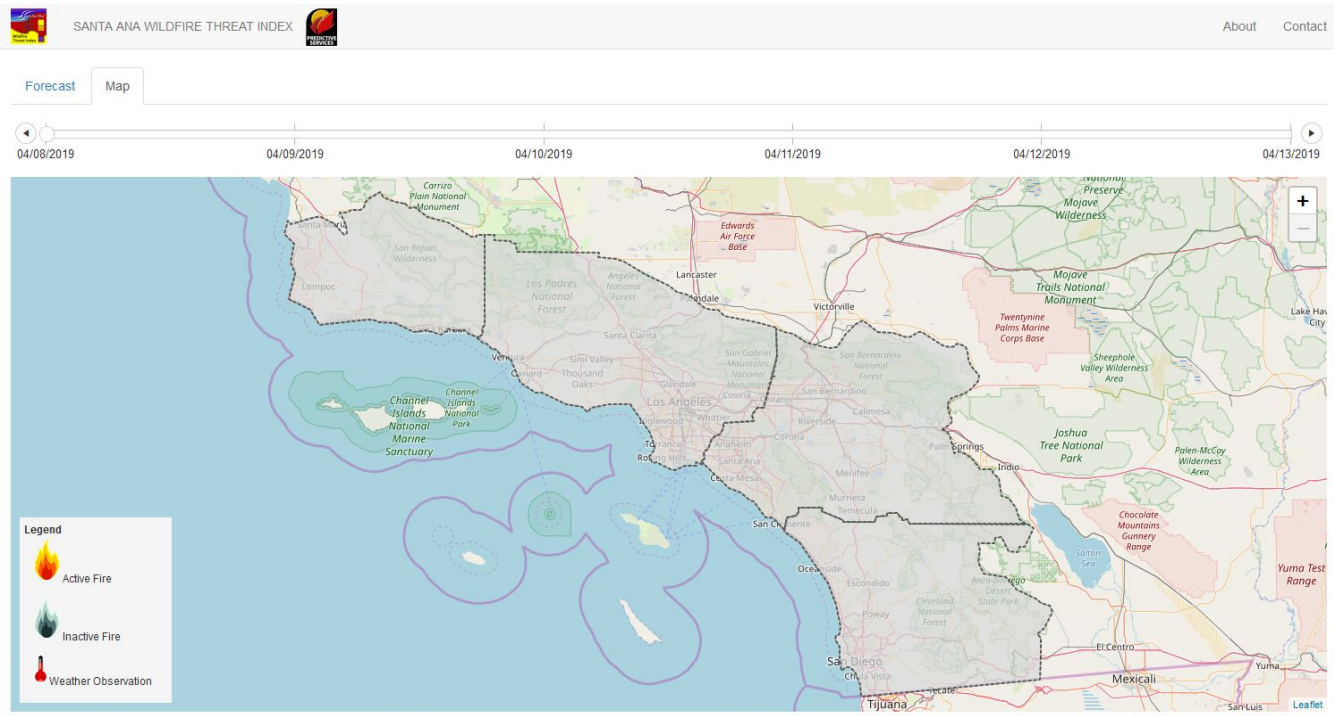
The Santa Ana Wildfire Threat Index (SAWTI) categorizes Santa Ana winds based on anticipated fire potential. The index uses a comprehensive, state-of-the-art predictive model that includes dead fuel moisture, live fuel moisture, and the greenness of annual grasses to create a detailed daily assessment of the fuel conditions across Southern California. This information is coupled with calibrated weather model output (comprised of wind speed and atmospheric moisture), to generate a 6-day forecast of Large Fire Potential. The Large Fire Potential output is then compared to climatological data and historical fire occurrence to establish the index rating, which has **four categories** ranging from Marginal to Extreme

Issuance Time: By 6:30 am.

Location:https://fsapps.nwcg.gov/psp/sawti Also on Twitter@ sawti_forecast



Zones	Mon/Apr 8	Tue/Apr 9	Wed/Apr 10	Thu/Apr 11	Fri/Apr 12	Sat/Apr 13
Zone 1: LA-Ventura						
Zone 2: Orange-Inland Empire						
Zone 3: San Diego						
Zone 4: Santa Barbara						



JOINT RESPONSIBILITIES

The National Weather Service (NWS) and the California Wildland Fire Coordination Group (CWCG) use a joint Fire Weather Program Assessment Team (FWPAT) to evaluate fire weather services in California. This team may make recommendations for improvements and/or changes to the program, and they also help ensure fire weather information is coordinated between agencies.

1. California Fire Weather Web Page and the Emergency Communication Center Dispatch Area (ECCDA) Forecast Summaries

An interagency fire weather web page for California is available at: http://www.wrh.noaa.gov/firewx/cafw/index.php. This website serves as a portal for fire weather information for California, including links to fire weather forecasts, SPOT forecasts, current conditions, and much more.

Emergency Communication Center Dispatch Area (ECCDA) Forecast Summaries are also available from this web site. These simplified fire weather summaries are meant to be used for fire agency radio broadcasts while at the same time providing the most essential daily weather information. Any Red Flag Warning or Fire Weather Watch headlines shown in the

ECCDA Forecast Summaries are linked to the actual watch or warning product. All forecast segments within an ECCDA are listed at the beginning of the forecast and can be mouse clicked to jump immediately to that segment.

2. Training

Meteorological training can be provided by both NWS and Predictive Services (PS). The NWS forecast offices primarily handle local courses that occur within their area of responsibility. Predictive Services' primary role is with regional and national level courses.

Requests for training from NWS offices should be directed to that office's Fire Weather focal point or the Meteorologist-In-Charge. If the office is not able to provide an instructor for a course, that office will assume the responsibility for finding an instructor. Requests for training from the PS units should be directed to the Training Coordinator or PS program manager. In all cases, sufficient advance notice (≥ six weeks whenever possible) should be given to allow for scheduling and proper preparation.

Costs incurred by NWS in providing training assistance (other than salary costs for a normal non-holiday weekday) will be borne by the requesting agency. Costs incurred by PS instructors are covered in their annual budget, without need for reimbursement.

Below is a table outlining the availability of the instructors based on qualifications for 2019:

Name Of Office	**Instructors qualified to teach S- 190, S-290**	**Other Classes that the listed office has at least one meteorologist qualified to instruct**
Redding Predictive Services	Steve Leach Brent Wachter	S-390, S-490, S-491, RX-410 WIMS, S-144, ECCO, RX-341, S-244, RT-130
Riverside Predictive Services	Rob Krohn	S-390, S-490, S-491, W IMS, RX10
Eureka	Jeff Tonkin Brad Charboneau	S-390, S-490, RX-300
Hanford	Cindy Bean Dan Harty Jim Dudley	S-390, RX-300
Las Vegas	Jim Harrison	S-390
Medford	Frederic Bunnag Brett Lutz Noel Keene Michael Stavish Thomas Wright Ryan Sandler	S-390, S-490
Monterey	Ryan Walbrun Matt Mehle	S-390, S-490, S-590
Oxnard	Dave Gomberg Rich Thompson	S-390, S-490
Phoenix		
Reno	Alex Hoon Jim Wallmann Edan Weishahn Tony Fuentes	S-390, S-490
Sacramento	Mike Smith	S-390, S-490, S-590, RX-300
San Diego	Jimmy Taeger	S-390

3. Coordination Conference Calls

Coordination conference calls will be conducted, as warranted, between the PS units and the WFOs during fire season. WFOs will need to monitor the status of coordination conference calls each day, once a beginning date has been established. Calls will continue until Predictive Services decides that they are no longer needed for the remainder of the season. WFOs will need to contact their respective PS unit to obtain the phone number and conference code.

PS Unit	Begin Date
North Ops	May 27, 2018
South Ops	

4. National Fire Danger Rating System (NFDRS) Forecasts.

The NWS provides weather forecasts for parameters that permit the NFDRS software to predict the next day's fire danger indices that the land management agencies utilize for fire management decision support. A 7-day forecast will be in trial phase in 2019. Criteria for Issuance – NWS will issue daily forecasts for use by the NFDRS during periods determined in consultation with land management agencies. Dates during which these forecasts are needed vary by year and by office. NWS NFDRS trend or point forecasts are usually available to fire agencies by 1500 LST/1600 LDT/2300 Z. The goal of the land management agencies is to provide quality observations in a timeframe that provides the NWS an hour to review the NFDRS observations and publish the forecasts. In order to meet these goals, the daily NFDRS fire weather observations must be made available to the NWS from WIMS in collectives by 1415 LST/1515 LDT/2215Z. NFDRS stations that do not have valid observations available in WIMS on time will not have next day fire danger indices available.

The observation data that the land management agencies utilize for NFDRS outputs is typically available to the agencies between 1300 LST/1400 LDT/ 2100 Z and 1340 LST/1440 LDT/2140 Z. To facilitate timely delivery of the NFDRS observations to the NWS, the agencies must strive to have their local quality control and data entry completed in WIMS by 1345 LST/1445 LDT/2145 Z. Collectives are run at 10-minute intervals beginning at 1330 LST/1430 LDT/ 2130 Z, with the last collective run at 1415 LST/1515 LDT/2215 Z. Depending on local needs, these times can vary. It is important that land management agencies and their supporting WFO discuss and mutually agree to the timeframes that best meet their collective needs.

Users who fail to meet the last collective, and want an NFDRS forecast for the following day, must coordinate with their local WFO to try and arrange for an updated forecast. Solutions to on-going timeliness problems should be coordinated between the local user,

WFO and GACC Predictive Services Unit. NWS forecasters should contact the USFS Fire & Aviation Management Helpdesk (24/7) (1-866-224-7677) for assistance in dealing with WIMS issues.

Procedures – For every NFDRS observation received from WIMS at the 1415 LST (1515 LDT) collective, forecast weather parameters for 1300 LST (1400 LDT) the next day will be produced. This will occur through zone trend, station trend, or station specific (point) forecasts. Regardless of the forecast methodology, forecast values for NFDRS stations should not unduly deviate from historical possibility for those stations. All NFDRS observation stations are assigned a six-digit station identification number for use in WIMS. The Northern California or Southern California PS units must be contacted for assignment of a six-digit number for any new station, or for any changes in location made to existing stations that already have a WIMS ID number.
The PS units will notify the NWS of any new or relocated NFDRS stations.

NWS forecasters should contact the USFS Fire and Aviation Management help desk at 1-866-224-7677 for assistance in WIMS issues.

NFDRS Collective and Bulletin Times (local variations allowed depending on need)

WFO	GATEWAY Routine	Header	1st OBS Collective	2nd OBS Collective	Forecast Obs	GATEWAY Routine	Header	Observed NFDRS Indices Bulletin #1	Observed NFDRS Indices Bulletin #2	Forecast NFDRS Indices Bulletin #1	Forecast NFDRS Indices Bulletin #2
Eureka	SENDOBS	SHUS66	2145	2215	2245	SENDNFDR	FNUS46	2145	2215	2245	none
Hanford	SENDOBS	SHUS66	2145	2215	2245	SENDNFDR	FNUS46	2145	2215	2245	none
Las Vegas	SENDOBS	SHUS65	2115	2230	2245	SENDNFDR	FNUS45	2115	2230	2245	2245
Los Angeles	SENDOBS	SHUS66	2145	2200	2245	SENDNFDR	FNUS46	2145	2200	2245	none
Medford	SENDOBS	SHUS66	2155	2215	2305	SENDNFDR	FNUS46	2200	2215	2305	none
Monterey	SENDOBS	SHUS66	2145	2200	2245	SENDNFDR	FNUS46	2145	2200	2245	none
Phoenix	SENDOBS	SHUS65	2115	2200	2245	SENDNFDR	FNUS45	2115	2200	2245	none
Reno	SENDOBS	SHUS65	2145	2200	2255	SENDNFDR	FNUS45	2150	2205	2245	none
Sacramento	SENDOBS	SHUS66	2145	2205	2301	SENDNFDR	FNUS46	2145	2205	2245	none
San Diego	SENDOBS	SHUS66	2145	2200	2245	SENDNFDR	FNUS46	2145	2200	2245	none

Contact Information

Office	Name	Position
Northern California PSU 6101 Airport Road, Redding, CA 96002 FAX Number: (530) 226-2742 WEB: https://gacc.nifc.gov/oncc/predictive/weather/index.htm Office Email: redding.fwx@fire.ca.gov Hours: Fire Season 7am-5pm daily, Low Season 7am-5pm M-F	Vacant John Wacter Steve Leach Billy Gardunio Vacant	USFS GACC Meteorologist/ PS Mgr. NFDRS/WIMS/RAWS Lead USFS GACC Meteorologist BLM GACC Meteorologist Fire Behavior Analyst Intelligence Officer
Southern California PSU 2524 Mulberry St. Riverside, CA 92501-2200 FAX Number: (951) 276-6439 WEB: https://gacc.nifc.gov/oscc/predictive/weather/index.htm Office Email: riverside.fwx@fire.ca.gov Hours: Fire Season 7am-5pm daily, Low Season 7am-5pm M-F	Vacant Matt Shameson Rob Krohn Vacant Vacant	USFS GACC Meteorologist/PS Mgr. USFS GACC Meteorologist USFS GACC Meteorologist Intelligence Officer Intelligence Coordinator
NWS Eureka Forecast Office 300 Startare Dr. Eureka, CA 95501-6000 FAX Number: (707) 443-6195 WEB: http://www.weather.gov/eureka Backup Offices: WFO Monterey and WFO Medford	Troy Nicolini Brad Charboneau Jeff Tonkin Ryan Aylward	Meteorologist In Charge Fire Weather Program Mgr. IMET Warning Coordination Meteorologist
NWS Hanford Forecast Office 900 Foggy Bottom Rd. Hanford, CA 93230-5236 FAX Number: (559) 584-1152 WEB: http://www.weather.gov/hanford Backup Office: WFO Sacramento	Kevin Lynott Cindy Bean Dan Harty Jim Dudley Jerald Meadows	Meteorologist In Charge Fire Weather Program Mgr. IMET IMET Warning Coordination Meteorologist
NWS Las Vegas Forecast Office 7851 Dean Martin Dr. Las Vegas, NV 89139-6628 FAX Number: (702) 263-9759 WEB: http://www.weather.gov/lasvegas Backup Offices: WFO Reno and WFO Flagstaff	Todd Lericos Andy Gorelow Daniel Berc	Meteorologist In Charge Fire Weather Program Mgr. / IMET Warning Coordination Meteorologist
NWS Los Angeles/Oxnard Forecast Office 520 N. Elevar St. Oxnard, CA 93030 FAX Number: (805) 988-6613 WEB: http://www.weather.gov/losangeles Backup Offices: WFO San Diego	Mark Jackson Dave Gomberg Rich Thompson Eric Boldt	Meteorologist In Charge Fire Weather Program Mgr. IMET Warning Coordination Meteorologist

NWS Medford Forecast Office 4003 Cirrus Dr. Medford, OR 97504 FAX Number: (541) 776-4333 WEB: http://www.weather.gov/medford Backup Offices: WFO Eureka, WFO Portland	(Vacant) Brett Lutz Thomas Wright Sven Nelaimischkies Ryan Sandler	Meteorologist In Charge Fire Weather Program Mgr. IMET IMET Trainee Warning Coordination Meteorologist

NWS Phoenix Forecast Office PAB 500, PO Box 52025, Phoenix, AZ 85072-2025 FAX Number: (602) 267-8051 WEB: http://www.weather.gov/phoenix Backup Offices: WFO Tucson and WFO Las Vegas	Jeral Estupinan Marvin Percha Ken Waters	Meteorologist In Charge Fire Weather Program Mgr Warning Coordination Meteorologist

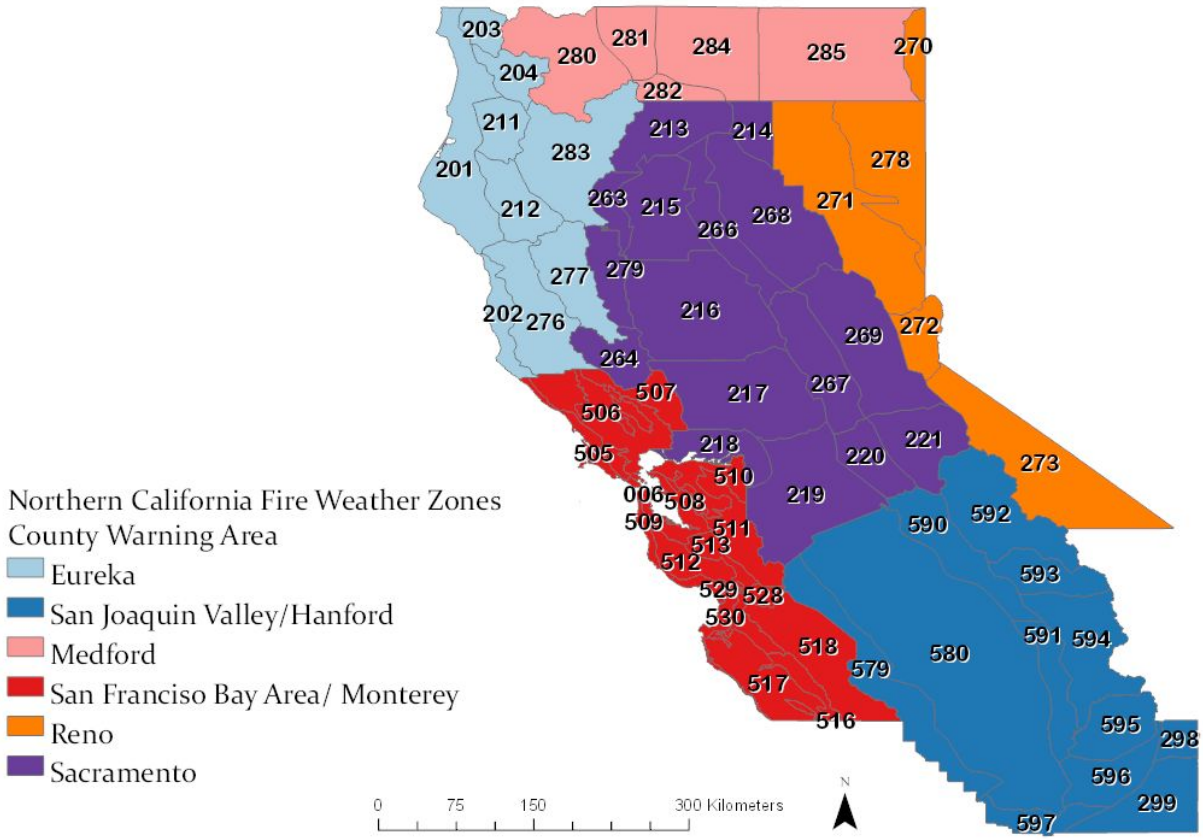
NWS Reno Forecast Office 2350 Raggio Parkway, Reno, NV 89512-3900 FAX Number: (775) 673-8110 WEB: http://www.weather.gov/reno Backup Offices: WFO Elko	Jon Mittelstadt Alex Hoon Edan Weishahn James Wallmann Tony Fuentes Chris Smallcomb	Meteorologist In Charge Fire Weather Program Mgr. / IMET Asst. Fire Weather Program Mgr. IMET IMET Trainee Warning Coordination Meteorologist

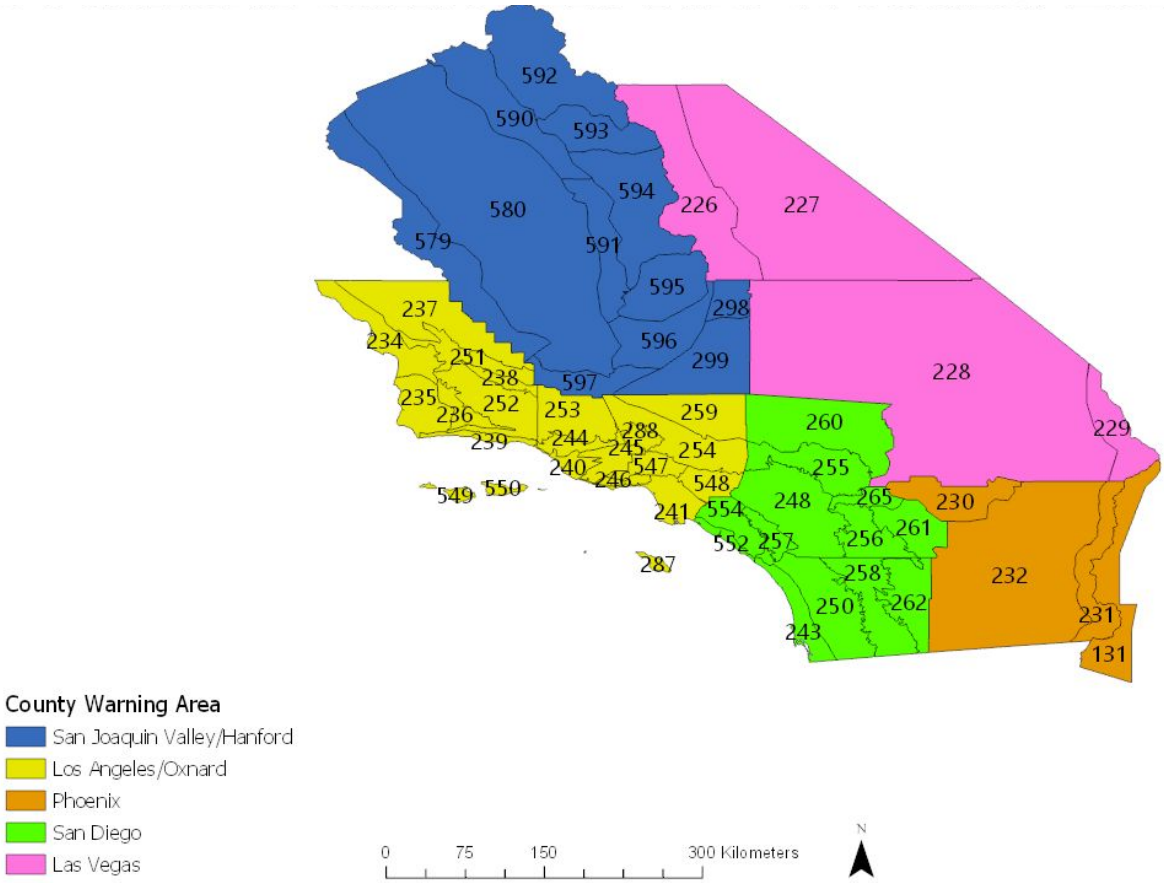
NWS Sacramento Forecast Office 3310 El Camino Ave. Room 228 Sacramento, CA 089512-3900 FAX Number: (916) 979-3052 WEB: http://www.weather.gov/sacramento Backup Offices: WFO Hanford	Dan Keeton Michelle Mead Vacant Mike Smith Eric Kurth (T) Michelle Mead	Meteorologist In Charge Fire Weather Program Mgr. Asst. Fire Wx Program Mgr. IMET IMET Warning Coordination Meteorologist

NWS San Diego Forecast Office 11440 W. Bernardo Ct. Ste. 230, San Diego, CA 92127 FAX Number: (858) 675-8717 or 8712 WEB: http://www.weather.gov/sandiego Backup Offices: WFO Los Angeles	Matt Moreland Jimmy Taeger Alex Tardy	Meteorologist In Charge Fire Weather Program Mgr / IMET Warning Coordination Meteorologist

NWS San Francisco Bay Area Forecast Office 21 Grace Hopper Ave., Stop 5, Monterey, CA 93943 FAX Number: (831) 656-1747 WEB: http://www.weather.gov/sanfrancisco Backup Offices: WFO Los Angeles	Cynthia Palmer Ryan Walbrun Matt Mehle Brian Garcia	Meteorologist In Charge Fire Weather Program Mgr. / IMET IMET Warning Coordination Meteorologist

California Fire Weather Zones





CA NWS Offices NFDRS/WIMS RAWS information

This list contains all fire weather stations that are NFDRS compliant and catalogued by the Weather Information Management System (WIMS)

NWS Eureka								
STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ALDER POINT	40423	State	HUU	556	40.186017	-123.591061	1059	
BACKBONE	40518	FS	SHF	591	40.889261	-123.142514	4609	
BIG HILL	40402	BLM/BIA	PR	555	40.097472	-123.635889	3570	
BIG BAR	40501	FS	SHF	591	40.742150	-123.249108	1722	
BOONVILLE	41001	State	MEU	557	38.987639	-123.348528	644	
BRUSH MTN L.O.	40404	FS	SRF	555	40.913933	123.668819	3941	
CAMP SIX LOOKOUT	40101	FS	SRF	556	41.830489	-123.876806	3698	
EEL RIVER (MNF)	41005	FS	MNF	557	39.825000	-123.083333	1500	
EEL RIVER CAMP	40421	State	HUU	556	40.138375	-123.823758	476	
FIVE CENT	40520	FS	SHF	591	40.753647	-122.932136	2602	changed location in 2017
FRIEND MTN	40512	FS	SHF	591	40.505551	-123.343196	4418	
GASQUET 2	40102	FS	KNF	556	41.837833	-123.945201	452	
HAYFORK	40503	FS	SHF	591	40.548513	-123.165132	2325	
HOOPA	40408	BIA	HIA	555	41.048223	-123.670961	375	
KNEELAND	40429	State	HUU	560	40.7199444	-123.928294	2737	
LAYTONVILLE	41019	State	MEU	557	39.702328	-123.484906	1820	
MAD RIVER	40507	FS	SRF	555	40.462994	-123.523775	2873	
MCGUIRES	41017	State	MEU	557	39.352569	-123.601752	627	
MENDOCINO PASS	41018	FS	MNF	557	39.807473	-122.945095	5382	
PATTYMOCUS	40812	FS	SHF	594	40.286082	-122.874688	3772	
RODEO VALLEY	41015	State	MEU	557	39.668028	-123.321194	2428	
RUTH STATION	40508	FS	SRF	555	40.25727	-123.31866	2732	
SCHOOLHOUSE	40425	NPS	RNP	560	41.138333	-123.955556	2653	
SCORPION	40517	FS	SHF	591	41.109483	-122.697476	3365	
SHIP MTN L.O.	40105	FS	SRF	556	41.729043	-123.793452	5151	
SLATE CREEK	40430	FS	SRF	555	41.341761	-123.659964	4178	
SODA CREEK	41406	FS	MNF	557	39.425078	-122.978547	1773	
TRINITY CAMP	40516	State	SHU	591	40.786419	-122.804486	3308	
UNDERWOOD	40519	FS	SRF	555	40.721489	-123.496292	2625	
WESTSIDE	40428	NPS	RNP	560	41.223282	-124.053956	1287	
YOLLA BOLLA	40511	FS	SHF	594	40.337447	-123.065622	4481	

NWS Las Vegas								
STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
HORSE THIEF SPRING	45129	BLM	CDD	543	35.770686	-115.909422	5046	
HUNTER MOUNTAIN	44809	NPS	DVL	543	36.565528	-117.473587	6897	
MID HILLS	45128	BLM	CDD	543	35.166111	-115.415277	5534	
OAK CREEK	44804	FS	INF	517	36.843633	-118.265428	4900	
OPAL MOUNTAIN	45127	BLM	CDD	543	35.154314	-117.175679	3240	
OWENS VALLEY	44803	State	BDU	517	37.391006	-118.552572	4650	

YUCCA VALLEY	45112	State	BDU	516	34.124081	-118.408831	3246	

NWS Oxnard (Los Angeles)

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ACTON	45438	L Gov	LAC	506	34.446389	-118.196800	2600	
ARROYO GRANDE	44915	State	SLU	500	35.179077	-120.392825	1032	
BEVERLY HILLS	45442	L Gov	LAC	501	34.124720	-118.412507	1260	
BIG PINES	45401	FS	ANF	507	34.379150	-117.687714	6964	
BRANCH MOUNTAIN	44901	FS	LPF	525	35.185233	-120.084989	3770	
CAMP 9	45441	L Gov	LAC	506	34.353294	-118.418579	4000	
CARRIZO	44916	BLM	BBD	525	35.096562	-119.773274	2490	
CASITAS	45308	FS	LPF	504	34.408175	-119.371244	639	
CATALINA ISLAND	45457	L Goc	LAC	501	33.350777	-118.35225	1570	
CHEESEBORO	45313	NPS	SAMO	505	34.186575	-118.719561	1707	
CHILAO	45436	FS	ANF	507	34.331603	-118.031123	5450	
CHUCHUPATE	45302	FS	LPF	503	34.806397	-119.013625	5283	
CLAREMONT	45443	L Gov	LAC	501	34.136800	-117.707569	1645	
CLEAR CREEK	45405	FS	ANF	506	34.271029	-118.152702	3745	
DEL VALLE	45445	L Gov	LAC	505	34.429719	-118.667119	1278	
FIGUEROA	45201	FS	LPF	500	34.734540	-120.006589	3176	
GRASS MOUNTAIN	45449	FS	ANF	506	34.640893	-118.414506	4599	
HENNINGER FLATS	45439	L Gov	LAC	509	34.195119	-118.093619	2800	
LA PANZA	44914	State	SLU	525	35.380725	-120.188094	1633	
LAKE PALMDALE	45450	L Gov	LAC	519	34.536950	-118.102331	2980	
LAS TABLAS	44904	State	SLU	520	35.656447	-120.924100	967	
LEO CARRILLO	45447	L Gov	LAC	501	34.045676	-118.936021	68	
LOS PRIETOS	45203	FS	LPF	500	34.544430	-119.791149	1005	
MALIBU	45433	L Gov	LAC	505	34.061561	-118.645219	1575	
MALIBU CANYON	45452	L Gov	LAC	505	34.083959	-118.703541	650	
MILL CREEK	45435	FS	ANF	507	34.390338	-118.082443	49	
MONTECITO	45218	FS	LPF	501	34.461397	-119.649014	1619	
MONTECITO CITY	45221	LGov	MTC	501	34.44506	-119.62617	372	
NEWHALL PASS	45454	L Gov	LAC	505	34.336969	-118.520500	2135	
OZENA	45303	FS	LPF	503	34.681781	-119.353733	3690	
POPPY PARK	45440	L Gov	LAC	519	34.728319	-118.394058	2760	
REFUGIO	45223	LGov	SBC	501	34.516658	-120.075331	1465	
ROSE VALLEY II	45314	FS	LPF	503	34.543402	-119.184979	3336	
SADDLEBACK BUTTE	45444	L Gov	LAC	519	34.668569	-117.821839	2590	
SAN MARCOS PASS	45224	LGov	SBC	501	34.493801	-119.796375	1796	
SAN RAFAEL HILLS	45451	L Gov	LAC	505	34.194219	-118.213400	1770	
SANTA CRUZ ISLAND	45216	NPS	CNP	501	33.992969	-119.716238	292	
SANTA FE	45437	L Gov	LAC	501	34.126139	-117.947169	500	
SANTA ROSA ISLAND	45217	NPS	CNP	501	33.978023	-120.078486	1297	
SAUGUS	45412	L Gov	LAC	505	34.435011	-118.513181	1450	
SB BOTANICAL GARDEN	45222	State	SBC	501	34.455886	-119.705627	753	

SLO COASTAL	44917	State	CDF	520	35.600000	-121.114166	228	
TANBARK	45421	FS	ANF	509	34.206964	-117.761570	2814	
TEMESCAL	45307	FS	LPF	505	34.473942	-118.761561	1124	
TEPUSQUET	45225	L Gov	SBC	500	34.919800	-120.181228	3212	
TONNER CANYON	45453	L Gov	LAC	501	33.947531	-117.822189	1340	
TOPANGA	45456	L Gov	LAC	505	34.136247	-118.606096	1631	
VANDENBERG	45220	FS	LPF	500	34.758605	-120.485970	1020	
WARM SPRINGS L.O.	45426	FS	ANF	506	34.595804	-118.579784	4019	
WHITAKER	45448	L Gov	LAC	506	34.569381	-118.740189	4120	
WHITTIER HILLS PARK	45446	L Gov	WIT	501	33.98400	-118.009431	950	

NWS Medford

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ASHCREEK	40244	FS	SHF	584	41.276808	-121.980569	3677	
BLUE MOUNTAIN	40302	FS	MDF	590	41.829908	-120.863381	5746	
BLUE RIDGE (KNF)	40203	FS	KNF	586	41.269094	-123.18969	5859	
BOLAM	40247	FS	SHF	584	41.534125	-122.209715	4489	
BRAZZI RANCH	40242	State	SKU	588	41.675720	-122.599922	3079	
CALLAHAN #2	40245	FS	KNF	587	41.299739	-122.825525	3910	
COLDSPRINGS	40314	FS	MDF	590	41.7816422	-120.319389	6379	
COLLINS BALDY LO	40237	FS	KNF	587	41.774964	-122.951819	5476	
CRAZY PEAK	40106	FS	SRF	621	41.976389	-123.612222	3970	
DEVIL'S GARDEN	40309	State	LMU	590	41.528394	-120.671544	5049	
DUTCH-INDY	40246	FS	KNF	587	41.643533	-123.444069	2296	
INDIAN WELL	40233	NPS	BNP	590	41.711689	-121.506604	4779	
JUANITA	40240	FS	KNF	589	41.801986	-122.109853	5176	
LOWER KLAMATH	40310	FWS	KBR	589	41.998449	-121.699692	4091	double checking location w owner
MT SHASTA	40217	FS	SHF	584	41.315336	-122.316561	3573	
OAK KNOLL	40218	FS	KNF	587	41.838358	-122.850153	1953	
QUARTZ HILL	40239	State	SKU	587	41.599111	-122.933595	4243	
ROUND MOUNTAIN	40221	FS	MDF	590	41.427110	-121.462510	5256	
RUSH CREEK	40312	FS	MDF	590	41.288072	-120.869648	5544	
SAWYERS BAR	40222	FS	KNF	586	41.301006	-123.129711	2513	
SLATER BUTTE	40225	FS	KNF	585	41.858357	-123.353769	4676	
SOMES BAR	40231	FS	SRF	586	41.390367	-123.492672	915	
TIMBER MOUNTAIN	40306	FS	MDF	590	41.627856	-121.298381	5053	
VAN BREMMER	40243	FS	KNF	589	41.642977	-121.794769	5316	
WEED	40228	State	SKU	588	41.478921	-122.454542	2938	

NWS Phoenix

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
FISH CREEK MTN.	45802	BLM	CDD	310	32.990310	-116.066970	767	
RICE VALLEY	45620	BLM	CDD	232	34.060763	-114.732312	820	

SQUAW LAKE	45801	BLM	CCD	310	32.908338	-114.474090	285	

NWS Reno

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
BARREL SPRINGS	260111	BLM	NOD	458	41.911111	-119.939888	5731	
BARON	42616	FS	TMU	542	38.854453	-120.024283	6247	
BEAR FLAT	40313	FS	MDF	590	41.295317	-120.314022	6828	
BENTON	43708	FS	INF	518	37.843327	-118.478551	5377	
BLACKS MOUNTAIN	40731	FS	LNF	598	40.72456	-121.178953	5725	
BLUE DOOR	40725	BLM	NOD	572	41.054072	-120.337490	5930	
BOGARD	40703	FS	LNF	598	40.592072	-121.077947	5673	
BRIDGEPORT	43702	FS	HTF	576	38.271736	-119.289387	6562	
BUFFALO CREEK	260113	BLM	NOD	458	40.581944	-119.789999	3940	
BULL FLAT	40728	BLM	NOD	572	40.481495	-120.115094	4706	
COYOTE	49902	FS	PNF	598	39.9878066	-120.477611	5573	
CRESTVIEW	43709	FS	INF	518	37.737447	-118.996581	7570	
DENTEN CREEK	40921	FS	PNF	598	39.779479	-120.594533	5150	
DEXTER	43711	FS	INF	518	37.838878	-118.771892	7976	
DOG VALLEY	41302	FS	TYF	450	39.561839	-120.048826	5937	
DOYLE	40724	BLM	NOD	450	40.058885	-120.097361	4338	
GORDON	40730	FS	LNF	598	40.758153	-120.892125	6215	
GRASSHOPPER	40721	State	LMU	598	40.781658	-120.784397	6154	
HIDDEN VALLEY	40732	BLM	NOD	598	40.441895	-120.626951	4440	
HOMEWOOD	41909	County	TMU	542	39.083506	-120.171312	7182	
HORSE LAKE	40727	BLM	NOD	572	40.632244	-120.477780	51532	
JUNIPER CREEK	40308	BLM	NOD	572	41.332655	-120.472818	4632	
JUNIPER SPRINGS	260112	BLM	NOD	458	41.080833	-119.776388	5348	
KNOX 2	260117	State	TMU	542	39.272830	-119.963000	7568	
LADDER BUTTE	40723	FS	LNF	598	40.807106	-121.296506	5672	Moved from STO(597) to REV(598)
LAUFMAN	40709	FS	PNF	599	40.141756	-120.353390	4863	
MARKLEEVILLE	42802	FS	TOF	576	38.690477	-119.774985	5501	
LUNDY	43712	FS	LNF	518	38.038390	-119.169360	7032	
PIERCE	40915	FS	PNF	598	40.246217	-120.643303	5829	
RAVENDALE	40714	BLM	NOD	572	40.731236	-120.316604	5445	
RICE CANYON	41311	FS	TNF	542	39.525013	-120.328839	6943	
ROCK CREEK	43710	FS	INF	518	37.559828	-118.678421	7092	
SKYLAND	261205	FS	TMU	542	39.023000	-119.940860	6599	
STAMPEDE	41310	FS	TNF	541	39.471094	-120.086975	6207	
TAHOE DONNER	41810	State	CDF	541	39.338190	-120.273390	7399	
WALKER	43707	FS	TYF	576	38.565572	-119.459283	5425	
WESTWOOD	40719	State	LMU	598	40.305867	-120.903322	6155	Moved from STO(597) to REV(598)

NWS Sacramento

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ALDER SPRINGS	41101	FS	MNF	595	39.651741	-122.724556	4528	

ARBUCKLE BASIN	40632	State	SHU	595	40.437799	-122.830914	2450	
BALD MOUNTAIN	42603	FS	ENF	538	38.904167	-120.705222	4613	
BANGOR	41201	State	BTU	596	39.380747	-121.386228	803	
BANNER ROAD	43211	State	TCU	539	38.284425	-120.489747	2803	
BEAVER	42601	FS	ENF	538	38.481903	-120.325817	4651	
BEN BOLT	42612	State	AEU	552	38.590827	-120.933657	905	
BROOKS	42202	State	LNU	558	38.738365	-122.14369	369	
CARPENTER RIDGE	41213	State	BTU	597	40.068732	-121.563773	4819	
CASHMAN	40916	FS	PNF	599	40.001958	-120.916217	4459	
CHESTER	40904	FS	LNF	597	40.292608	-121.243939	4547	
COHASSET	41211	State	BTU	596	39.871834	-121.768948	1713	
COLBY MOUNTAIN	40801	FS	LNF	597	40.145644	-121.522496	6004	
CORNING	40814	State	TGU	595	39.938944	-122.169733	289	
COTTAGE	43210	FS	STF	539	38.345872	-120.229519	6064	
COUNTY LINE	41410	BLM	NOD	557	39.0188143	-122.411691	2084	
DUNCAN	41901	FS	TNF	536	39.1438912	-120.508903	7100	
EAGLE PEAK	40802	FS	MNF	595	39.927422	-122.641981	3713	
GREEN SPRING	43613	State	TCU	539	37.834233	-120.503037	1124	
HELL HOLE	42608	FS	ENF	538	39.069711	-120.419886	5240	
HIGH GLADE LOOKOUT	41402	FS	MNF	595	39.2083887	-122.809982	4819	
HUMBUG SUMMIT	40918	FS	LNF	596	40.109516	-121.382700	6725	
JARBO GAP	41214	State	BTU	599	39.735928	-121.488963	2510	
KONOCTI	41411	State	LNU	558	38.911962	-122.706443	2169	
LADDER BUTTE	40723	FS	LNF	597	40.807106	-121.296506	5672	
LASSEN LODGE	40815	State	TGU	597	40.344144	-121.713733	4159	
LINCOLN	41907	State	NEU	554	38.881031	-121.266689	210	
MANZANITA LAKE	40609	FS	LNF	597	40.540114	-121.580164	5725	checking with local unit on location
MOUNT ZION	42701	State	AEU	552	38.390064	-120.652403	2967	
MT ELIZABETH	43605	FS	STF	539	38.062925	-120.247253	4942	
MULE MOUNTAIN	43637	NPS	WNP	595	40.569239	-122.503017	2099	
OAK MTN	40635	FS	SHF	593	41.006331	-121.984431	2646	
OPENSHAW	41215	State	BTU	596	39.589833	-121.635160	265	
OWENS CAMP	42611	FS	ENF	538	38.735852	-120.241615	5222	
PANTHER SPRINGS	40805	FS	LNF	596	40.242119	-121.775733	3338	
PIKE CNTY LOOKOUT	41701	FS	PNF	599	39.474684	-121.202419	3699	
PILOT HILL	42609	State	AEU	552	38.831681	-121.009200	1249	
PINECREST #2	43615	FS	STF	540	38.186152	-120.010651	5707	
QUINCY	40910	FS	PNF	599	39.973311	-120.941899	3595	
READER RANCH	41809	State	NEU	535	39.303555	-121.117249	1968	
REDDING	40611	FS/State	SHU	595	40.515792	-122.292175	499	
SACRAMENTO NWR	41102	FWS	MNF	595	39.417456	-122.182396	90	
SADDLEBACK	41304	FS	TNF	536	39.636073	-120.84200	6642	
SECRET TOWN	41808	State	NEU	535	39.183838	-120.884477	2740	
SEED ORCHARD	41908	FS	TNF	536	39.091572	-120.731984	4259	
SIMS	40618	FS	SHF	593	41.071309	-122.369977	2461	
SMITH PEAK LOOKOUT	44115	FS	STF	539	37.800522	-120.100811	3871	

SOLDIER MTN	40630	State	SHU	593	40.926492	-121.584599	3707	
STEELY FORK	42615	FS	ENF	538	38.626097	-120.527907	4046	
STONYFORD	41503	FS	MNF	595	39.367294	-122.572894	1263	
SUGARLOAF (SHF)	40614	FS	SHF	592	40.915961	-122.434833	3259	
SWAIN	40920	FS	LNF	597	40.445367	-121.104118	6183	
THOMES CREEK	40816	State	TGU	595	39.854214	-122.609903	1029	
WESTWOOD	40719	State	LMU	597	40.305867	-120.903322	6155	
WHISKEYTOWN HQ2	40629	NPS	WNP	595	40.610514	-122.527314	1360	
WHITE CLOUD	41806	FS	TNF	536	39.317805	-120.845141	4388	
WHITMORE	40615	State	SHU	596	40.6195068	-121.899568	2499	

NWS San Diego

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ALISO LAGUNA	45509	L. Gov	CDF	513	33.535969	-117.753361	820	
ANZA	45616	State	RRU	513	33.555864	-116.674542	3939	
APPLE VALLEY #2	45134	BLM	CDD	514	34.592586	-117.168303	3159	
BANNING	45601	FS	BDF	511	33.973420	-116.912513	3607	Station upgraded from Manual Oct 12, 2017
BEAUMONT	45617	State	RRU	510	33.930489	-116.949906	2604	
BELL CANYON	45735	L Gov	ORC	509	33.551823	-117.572991	799	
BIG PINE FLAT	45102	FS	BDF	511	34.318753	-117.013892	6851	
BURNS CANYON	45125	BLM	CDD	516	34.208446	-116.6201633	6305	
CAMERON FIRE STA	45704	FS	CNF	513	32.721178	-116.464644	3263	
CAMP ELLIOTT	45741	DOD	MFD	508	32.859303	-117.105734	500	
CLARK	45624	State	RRU	509	33.877147	-117.304072	1722	
CONVERSE	45105	FS	BDF	511	34.194026	-116.913169	5669	
CORONA 2	45636	FS	CNF	512	33.818981	-117.573553	1951	
CRANSTON	45603	FS	BDF	512	33.737458	-116.838158	1930	
DESCANSO FIRE STA	45707	FS	CNF	513	32.857394	-116.622392	3567	
DEVORE	45113	State	BDU	510	34.182140	-117.385110	1695	Moved in 2017 to meet NWCG Standards
EL CARISO FIRE STA	45619	FS	CNF	509	33.647115	-117.412031	2751	
FAWNSKIN	45101	FS	BDF	511	34.266698	-116.899049	6936	
FREMONT CANYON	45736	L Gov	ORC	509	33.811164	-117.708384	1781	
BUD HILL	45724	FS	CNF	509	33.084319	-116.876903	1835	
HEAPS PEAK	45133	FS	BDF	511	34.234825	-117.138875	6455	
JULIAN	45708	State	MVU	513	33.075686	-116.592575	4238	
KEENWILD	45604	FS	BDF	513	33.708325	-116.716939	4752	
KENWORTHY	45605	FS	BDF	513	33.616676	-116.622484	4592	Portable RAWS at site
LITTLE TUJUNGA	45411	FS	ANF	509	34.294132	-118.360840	1375	
LYTLE CREEK	45108	FS	BDF	510	34.234139	-117.480156	2727	
MILL CREEK	45109	FS	BDF	510	34.079843	-117.046761	2950	
MORMON ROCKS	45114	FS	BDF	511	34.315989	-117.503700	3514	
MT LAGUNA	45709	FS	CNF	513	32.881215	-116.428771	5735	
OAK GROVE FIRE STA	45710	FS	CNF	513	33.385943	-116.796802	2786	
PALOMAR	45740	FS	CNF	513	33.352067	-116.862749	5490	
PINE HILLS FIRE STA	45711	FS	CNF	513	33.016659	-116.635459	3653	
POTRERO	45730	State	MVU	513	32.605861	-116.608822	2345	

RANCHITA	45729	State	MVU	513	33.222259	-116.497467	4418	
ROCK CAMP	45111	FS	BDF	511	34.290825	-117.213472	4928	
SAN MIGUEL	45737	FWS	TSR	509	32.686150	-116.978447	527	
SANTA ROSA PLATEAU	45623	State	RRU	513	33.518138	-117.229111	1999	
SWEETWATER	45744	FS	CNF	509	32.836425	-116.671546	2810	
TEMESCAL 2	45	FS	CNF	509	33.754743	-117.500133	1811	
VALLEY CENTER	45734	State	MVU	509	33.237036	-117.008607	1478	
VALYERMO	45423	FS	ANF	514	34.445605	-117.851129	3724	
VISTA GRANDE	45612	FS	BDF	513	33.836057	-116.811241	4902	
YUCCA VALLEY	45112	State	BDU	516	34.124066	-116.408859	3253	

NWS Monterey

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ALTAMONT	43407	State	SCU	511	37.693028	-121.609333	1436	
ARROYO SECO	44301	FS	LPF	522	36.235481	-121.479881	879	
ATLAS PEAK	42108	State	LNU	507	38.474915	-122.264821	2025	
BARNABY	42308	L Gov	MRN	559	38.028131	-122.702325	822	
BEN LOMOND	43809	State	CZU	549	37.130952	-122.172656	2647	
BIG ROCK	42310	L Gov	MRN	559	38.039487	-122.570047	1082	
BIG SUR	44302	FS	LPF	521	36.245372	-121.780162	335	
BLACK DIAMOND	43008	L Gov	EBY	547	37.947271	-121.887953	1657	
BRADLEY	44303	State	BEU	523	35.864400	-120.802981	537	
BRIONES	43010	L Gov	EBY	547	37.934611	-122.124453	1450	
CALAVERAS RD	43405	L Gov	SCU	547	37.553136	-121.844207	1236	
CORDOZA RIDGE	43916	State	SCU	547	37.168231	-121.528535	2356	
CORRALITOS	43802	State	CZU	550	36.990883	-121.804891	329	
DIABLO GRANDE	43502	State	SCU	546	37.329287	-121.295415	1875	
FORT HUNTER LIGGET	44317	FS	LPF	522	36.011803	-121.241742	1115	
HASTINGS	44319	State	BEU	522	36.388514	-121.551640	1885	
HAWKEYE	42010	State	LNU	559	38.735086	-122.837058	2024	
HERNANDEZ	44409	State	BEU	524	36.382571	-120.855833	3746	
HOLLISTER	44406	State	BEU	523	36.842179	-121.362766	410	
LA HONDA	43304	State	CZU	549	37.305253	-122.255285	903	
LAS TRAMPAS	43009	L Gov	EBY	547	37.834330	-122.066547	1811	
LOS ALTOS	43912	L Gov	SCU	549	37.354789	-122.141904	542	
LOS GATOS	43913	L Gov	SCU	549	37.203863	-121.950838	1858	
LOS VAQUEROS	43013	L Gov	SCU	547	37.788575	-121.734962	1112	
MALLORY RIDGE	43011	L Gov	SCU	547	37.817304	-121.778954	2067	
MIDDLE PEAK	42312	LGov	MRN	507	37.927934	-122.588205	2507	
OAK RIDGE	42012	State	LNU	599	38.738068	-123.308405	1911	
OAKLAND NORTH	43402	L Gov	EBY	550	37.865198	-122.220911	1498	
OAKLAND SOUTH	43403	L Gov	EBY	550	37.786250	-122.144778	1200	
PANOCHE	44514	State	FKU	524	36.727124	-120.765931	2051	
PARKFIELD	44310	State	BEU	524	35.898372	-120.433322	1531	
PINNACLES	44410	NPS	PIP	524	36.470749	-121.147306	1382	
POVERTY	43914	L Gov	SCU	550	37.443270	-121.770476	2072	

PULGAS	43309	L Gov	CZU	549	37.473121	-122.297988	638	
ROBINHOOD	42313	L Gov	NOV	559	38.112504	-122.549841	482	
ROSE PEAK	43404	L Gov	EBY	547	37.511310	-121.741597	3344	
SAN JOSE	43915	L Gov	SCU	511	37.398545	-121.807015	731	
SANTA RITA	44408	BLM	BBD	524	36.348174	-120.600141	5018	
SANTA ROSA	42009	State	LNU	559	38.478483	-122.711797	599	
SPRING VALLEY	43308	L Gov	CZU	549	37.562616	-122.436633	1082	
WOODACRE	42309	L Gov	MRN	559	37.990637	-122.646546	1494	

NWS Hanford (San Joaquin Valley)

STATION NAME WIMS	WIMS ID	AGENCY	UNIT	FCST ZONE	LAT	LON	ELEV	Remarks
ASH MOUNTAIN	44701	NPS	KNP	529	36.491466	-118.825314	1723	
BATTERSON	44207	FS	SNF	528	37.378422	-119.629531	3176	
BEAR PEAK	44730	BLM	BBD	530	35.881949	-118.075467	8238	
BLACKROCK	44722	FS	SQF	534	36.092998	-118.261203	8094	
BRECKENRIDGE	45009	FS	SQF	534	35.450602	-118.584040	7518	
CAMPO SECO	43209	State	TCU	539	38.223688	-120.866470	402	
CASE MOUNTAIN	44733	BLM	BBD	529	36.410628	-118.809147	6436	
CATHEYS VALLEY	44114	State	MMU	528	37.380242	-120.076967	1234	
CEDAR GROVE	44719	NPS	KNP	534	36.790833	-118.660000	4720	Need to double check
CRANE	44102	NPS	YNP	531	37.759473	-119.820582	6642	
DEMOCRAT	45002	FS	SQF	530	35.531892	-118.630581	2364	
DINKEY	44521	FS	SNF	533	37.066509	-119.157287	5749	
FANCHER CREEK	44516	State	FKU	528	36.883712	-119.475746	924	
FENCE MDW	44503	FS	SNF	532	36.962128	-119.175558	5240	
FOUNTAIN SPRINGS	44731	State	TUU	529	35.892072	-118.916065	802	
HIGH SIERRA	44520	FS	SNF	533	37.314643	-119.039342	7429	
HURLEY	44517	State	FKU	529	37.015144	-119.567800	1228	
INDIAN WELLS CANYON	45015	FS/BLM	CDD	530	35.684900	-117.889125	3883	
JAWBONE	45013	FS/BLM	CDD	530	35.294887	-118.226772	4550	
JERSEYDALE	44105	FS	SNF	528	37.543726	-119.839724	3766	
JOHNSONDALE	44707	FS	SQF	534	35.969715	-118.541075	4684	
KETTLEMAN HILLS	44602	BLM	BBD	526	36.031121	-120.054872	834	
LOS BANOS	44003	State	MMU	526	37.054812	-121.053136	324	
MARIPOSA	44106	State	MMU	528	37.504029	-119.986888	2241	
METCALF GAP	44209	State	MMU	528	37.409400	-119.767894	3118	
MIAMI	44110	FS	SNF	532	37.419253	-119.745442	4267	
MILO	44708	State	TUU	529	36.231479	-118.869198	1940	
MINARETS	44203	FS	SNF	532	37.407241	-119.345749	5339	
MT TOM	44511	FS	SNF	533	37.376419	-119.179267	8982	
MT REST	44505	FS	SNF	529	37.041141	-119.372089	4100	
NORTH FORK	44204	FS	SNF	528	37.233048	-119.505884	2755	
OAK OPENING	44717	FS	SQF	529	36.175294	-118.701717	3091	
PARK RIDGE	44713	NPS	KNP	532	36.723689	-118.943920	7503	
PEPPERMINT	44726	FS	SQF	534	36.073474	-118.542115	7384	
PINEHURST	44508	FS	SQF	529	36.697334	-119.018704	4066	

PIUTES	45017	FS	SQF	534	35.444813	-118.280573	6456	
RATTLESNAKE	44728	NPS	KNP	534	36.406886	-118.421762	8352	Seasonal Station will be activated mid-june
RIVER KERN	45016	FS	SQF	530	35.777197	-118.433756	3033	
SHADE QUARTER	44724	State	TUU	534	36.567003	-118.957871	4359	
SHAVER	44522	State	FKU	528	37.136851	-119.261745	5639	
SUGARLOAF	44729	NPS	KNP	534	36.726667	-118.675000	8127	Seasonal Station will be activated mid-june
TRIMMER	44510	FS	SNF	529	36.911051	-119.306592	1487	
UHL/HOT SPRINGS	44712	FS	SQF	529	35.886667	-118.648405	3782	
WALKER PASS	45014	BLM	BBD	530	35.665773	-118.057055	5575	
WAWONA	44109	NPS	YNP	531	37.544483	-119.644759	4279	
WOLVERTON	44732	NPS	KNP	534	36.445926	-118.704317	5590	
WWOLF	43612	NPS	YNP	531	37.859426	-119.651599	8037	

NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

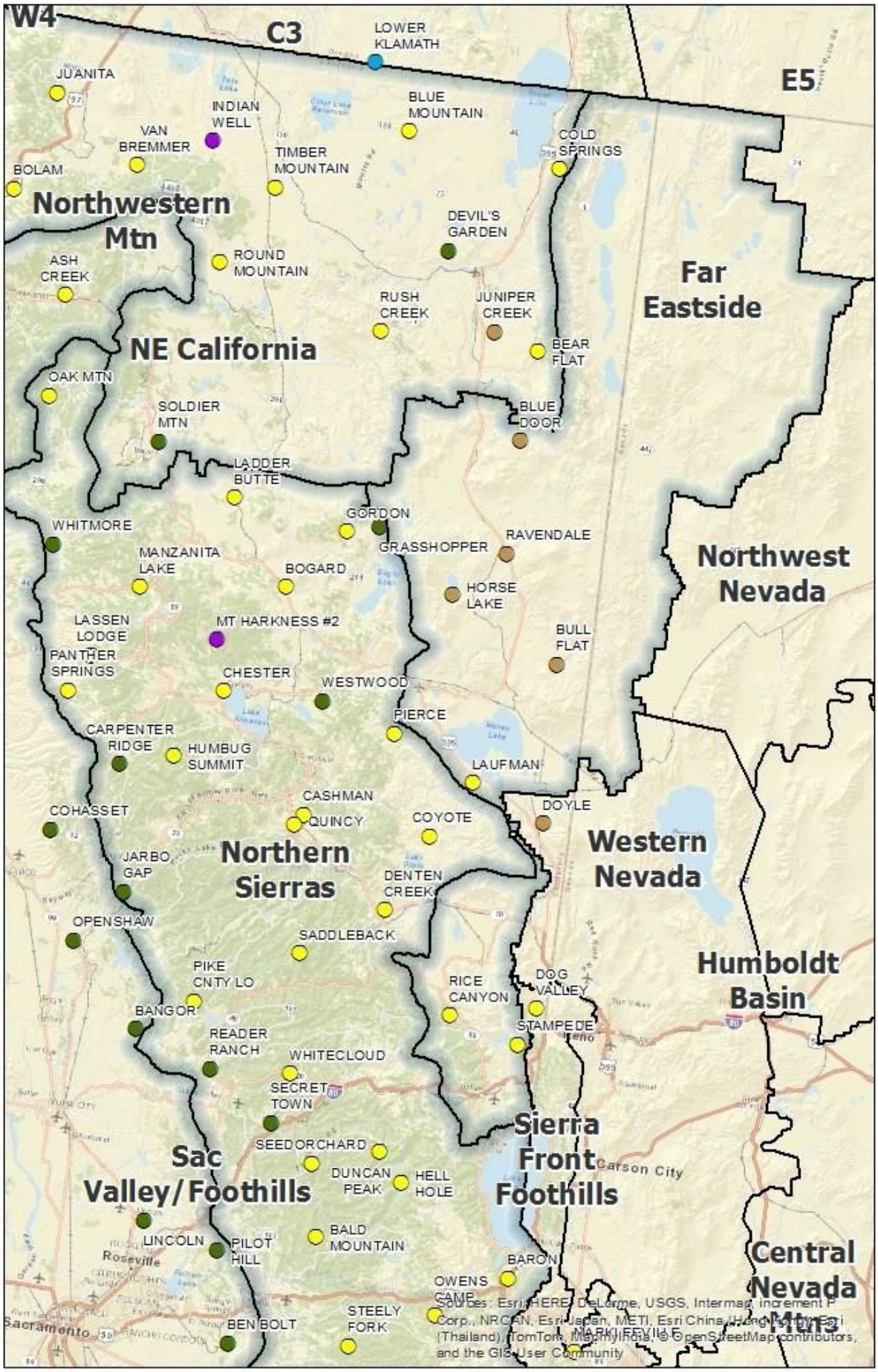
RAWS Ownership - 2015

AGENCY

- BIA
- BLM
- FS
- FS/State
- FWS
- NPS
- State

Northwest Region

N



NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

RAWS Ownership - 2015

AGENCY

- BLM
- FS
- FWS
- NPS
- State

Northeast Region

N

NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

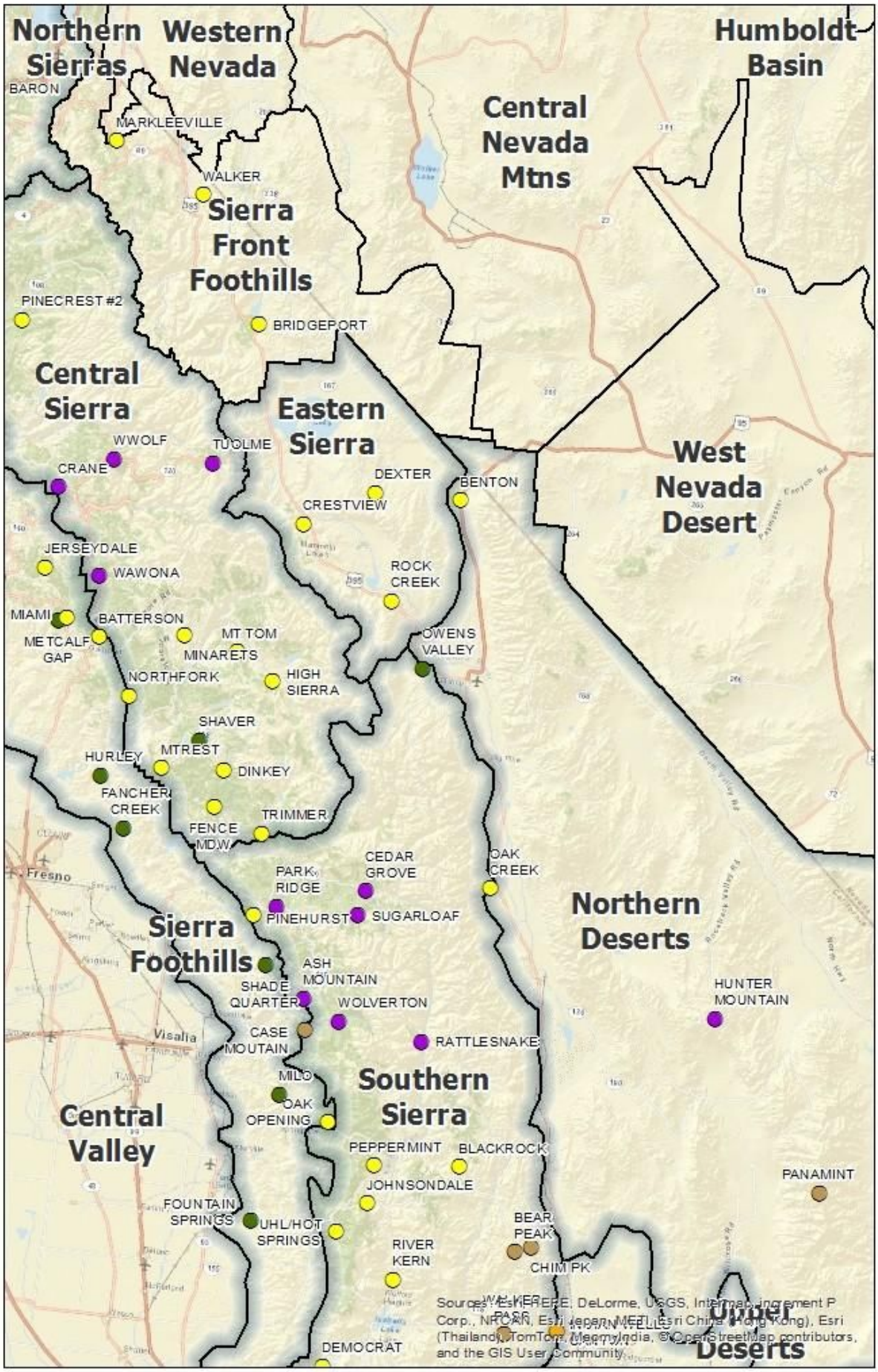
RAWS Ownership - 2015

AGENCY

- BLM
- FS
- Local Gov
- NPS
- State

Bay Area Region

N



NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

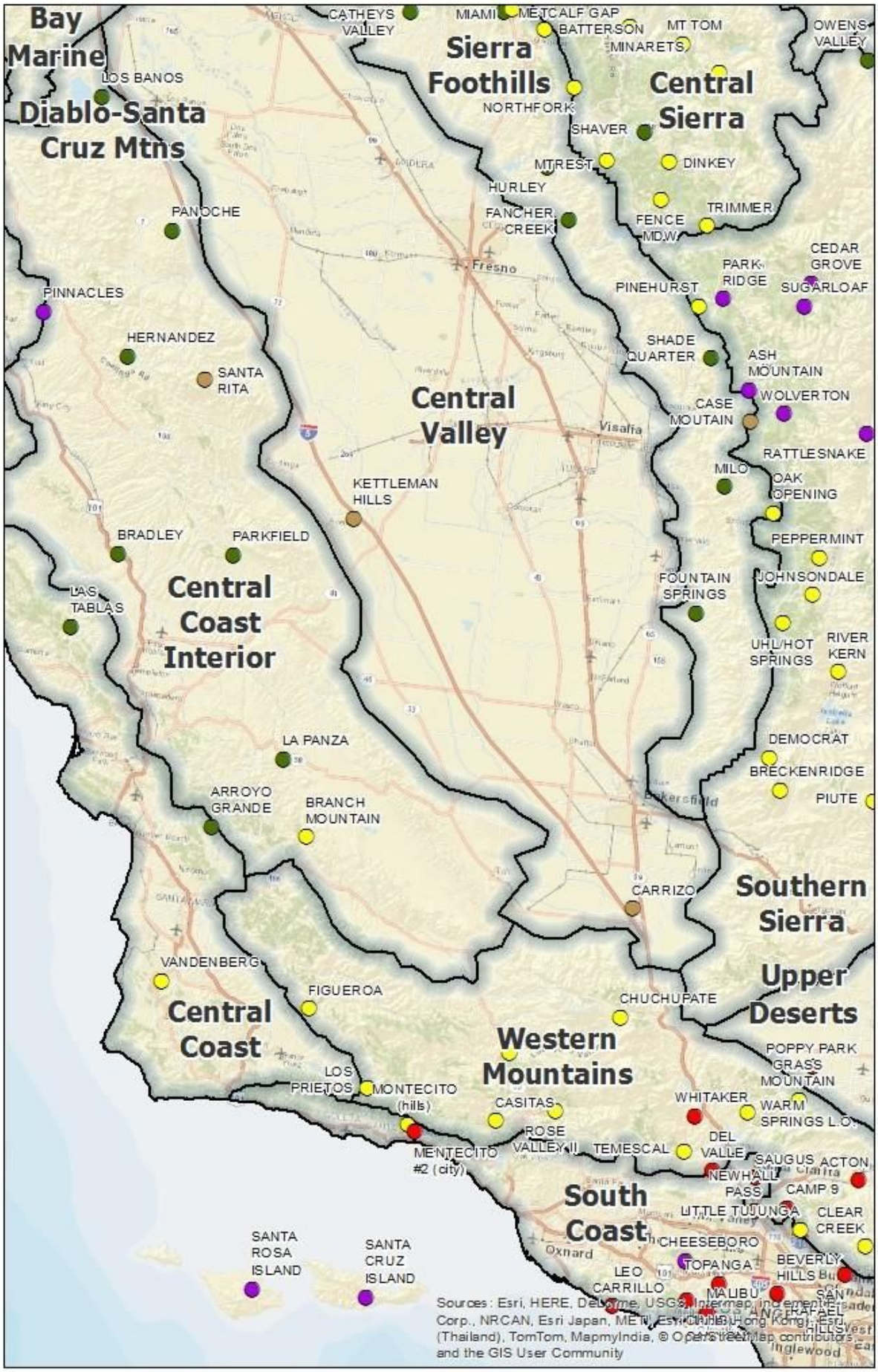
RAWS Ownership - 2015

AGENCY

- BLM
- FS
- FS/BLM
- NPS
- State

South Sierra Region

N



NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

RAWS Ownership - 2015

AGENCY

- BLM
- FS
- FS/BLM
- Local Gov
- NPS
- State

Central Coast Region

N

NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

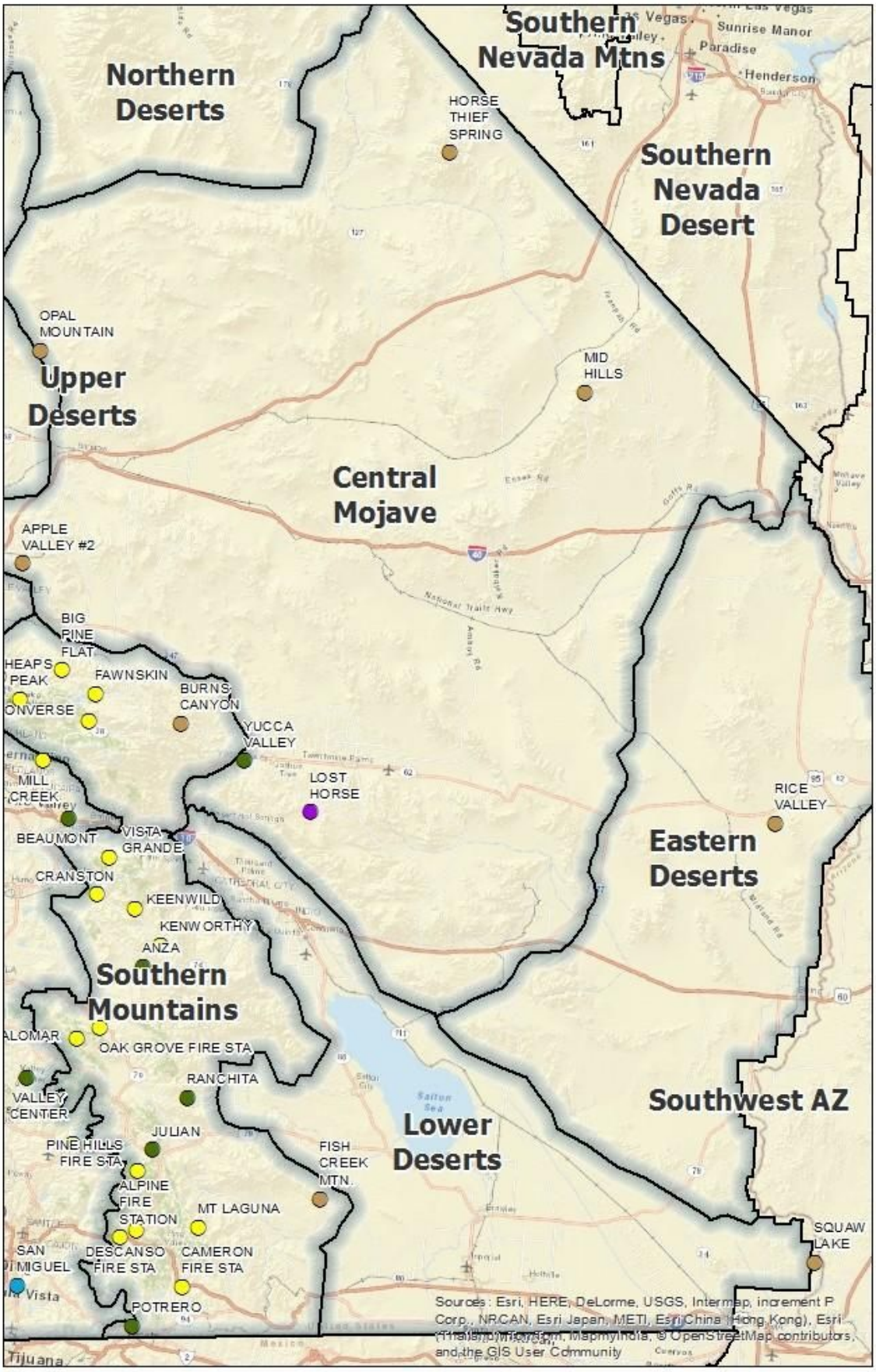
RAWS Ownership - 2015

AGENCY

- BLM
- DOD
- FS
- FS/BLM
- FWS
- Local Gov
- NPS
- State

South Coast Region

N



NFDRS RAWS 2015

From Appendix F of AOP

PSA Boundary

RAWS Ownership - 2015

AGENCY

- BLM
- DOD
- FS
- FWS
- NPS
- State

South Desert Region

N

AGENCY SIGNATURES / EFFECTIVE DATES OF THE AOP

This AOP shall be effective on the date the last signature is placed on this page and will remain in effect until the date the last signature is placed on this page the following year. Updates or amendments may be added in the interim upon agreement of all signatories.

Agency Signatures

5/23/19

Robin Willis — Date
Chair, California Wildland Fire Coordinating Group

5-16-19

Dan Keeton — Date
NWS State Liaison Northern California Official

Mark Jackson 5-16-19

Mark Jackson — Date
NWS State Liaison Southern California Official